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DIET IN ACUTE INFECTIOUS DISEASES

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Feeding the sick is both a science and an art; a science in so far as it takes cognizance of the great laws of supply and demand in a physiologic sense; an art in so far as it affects the application of these laws to the individual.

All matter is endowed with a certain amount of energy, which manifests itself differently, under different conditions. Certain chemical substances, by virtue of the nature of the elements that compose them and their relationship to each other, that is, their structure, have the power to produce one or more manifestations of energy. They are said then to have potential energy.

To give rise to the manifestations of energy, these substances must have a certain degree of instability or lability; that is, must be capable under definite conditions of undergoing changes in structure, disruptions, etc., all of which give rise to motion.

The substances of which our bodies are composed and food on which they continue to exist are chemical substances of a highly labile character, possessing potential energy, which in the process of catabolism or breaking down, give rise to motion, which conveyed to other bodies is manifested as work or is expressed as heat, to neglect the lesser forms of energy in the human body, such as the electrical.

Energy is as indestructible as matter itself. It can be transformed from one kind into another, but it cannot be destroyed nor yet created anew. Different manifestations of energy have definite quantitative relationships to each other, as Joule's great experiments on the mechanical equivalent of heat showed. He demonstrated that the amount of work necessary to raise 1 gm. of water through 1° C. was that required to raise 42.55 gm. through 1 cm. of distance.

I have said that the conversion of the potential energy of the body or of the food into one or the other manifest forms of energy occurs under definite conditions. The definite condition in the body which gives character to its manifest energy is the "vitality" of the cell. Moore[1] calls the living cell an "energy transformer," and without entering into the controversy about the significance of "vitalistic phenomena," I shall quote his idea, which is as follows:

> The living cell is not a peculiarly constructed membrane obeying, even where it seems most directly not to obey, the physical laws of diffusion and osmosis; but is an energy machine or transformer by virtue of the operation of which a form of energy appears, peculiar in its manifestations and phenomena to living matter.

The kind of energy that this transformer, the living cell, produces out of the potential energy of the body and its foodstuffs is almost entirely thermokinetic, that of work and heat, and as we can express work in terms of heat, we may reduce the total activities of the body to terms of heat and express them as equal to so many "calories" or heat units.

The "calorie" is a term used to express that amount of heat which is required to raise 1 c.c. or gm. of water through 1° C. More properly, this is termed a "small calorie," while the term "large calorie" is used for the amount required to raise 1 kilogram or 1 liter of water through 1° C., i. e., 1 large calorie equals 1,000 small calories.

THE CALORIC BALANCE OF THE HUMAN BODY

As has just been said, the human body (the cells collectively) is an energy transformer; or to put it in other terms, the human body is like a steam-engine, consuming fuel for the purpose of doing work and producing heat; but the human body differs from a steam-engine in this, that, lacking fuel, it will consume its own structure up to the point of a complete collapse of the mechanism; so that, to maintain the integrity of the transformer or engine, it is necessary that the output by it of work and heat shall be exactly met by the fuel afforded it. To know the amount of food the human body requires, then, we must know the amount of work it does and the amount of heat it elaborates in a given time.

Now Nature has given to the individual a most amazing regulator to adapt the supply to the demand on which no device of man can ever improve; that is, appetite. When one thinks that day after day and year after year, the body retains a fixed or approximate weight, under the most varying demands of work, and consequently of food, under the guidance of this monitor, one is lost in admiration; but as there are times, in the stress of disease, that this regulator fails or by the dictates of false theories, is disregarded, we need to know what the demands actually are, in order that we may guarantee that they may be met.

The determination of the caloric output in man has been made possible by the use of the calorimeter chamber of Pettenkofer and Voit, elaborated and perfected by Atwater and Benedict, whose work in this field has been the most extensive and accurate ever done, and whose studies of food-values have been accepted by the government as standards; and by the study of the respiratory quotient determined by the simpler apparatus of Zuntz.

Still another way to determine the caloric needs of man is to determine the heat values of the foods habitually taken by normal individuals in different callings.

1. Recent Advances in Physiology and Biochemistry, edited by Leonard Hill, London, 1908.

These analyses of the average intake and output agree wonderfully well. For men doing light or sedentary work, clerks, professional men, literary men, the requirements are between 2,400 and 2,600 calories; for those whose work is a little more arduous, as machinists, shoemakers and the like, 2,900 to 3,100 calories; for those doing hard muscular work, smiths, masons, etc., 3,300 to 3,600 calories, while those doing very hard work run up much higher, the Maine woodsmen demanding some 7,000 to 8,000 calories. Football players require nearly as much.

What concerns us most is the requirement of a man at rest, for this is the condition in which we find our patients. Rest, too, is a relative term, and as used here means that degree of activity which obtains when a patient is put to bed, which is a very different state from complete muscular relaxation or that prevailing in sleep. At rest the demands are about 2,300 calories or 33 calories per kilo of body weight, the average man weighing 70 kilos or 150 pounds.

A fact of prime importance to us as practitioners is that educed from the work of Magnus-Levy,[2] namely, that the total metabolism is the same in the sick man as in health, so far as the demands of muscular effort and heat production go; but, as we shall see, fever and toxemia increase these demands.

The caloric requirement of an individual depends not only on the amount of work he does, but also on the size or bulk of his body; and while we have spoken of the requirements of a man at rest as 2,300 calories, it is meant for a man of average weight, while such wide variations as a man of 200 pounds and a woman of 100 pounds are common in our every-day experience. The requirements are best thought of in units of weight, as so many calories per kilo—for a man at rest 33 calories per kilo.

Here, too, certain modifications have to be made, as in the excessively obese, whose fat is hardly to be considered in the same light as the more actively metabolizing tissues.

The figures "33 calories per kilo" obtain only for adults. In the young the growth has to be taken into consideration, which in certain periods is more intensive than in others; e. g., in the first three months of life the demands are about 110 calories per kilo; in the second three months, 100; in the last half of the first year 90; at the end of the second year, 75 to 80; at 10 years, 60, and at 14 years, 52. Indeed, as Cohnheim observes, the boy of 10 requires as much food as the adult who does not do muscular work, while the youth of 14 to 16 must eat 3,000 calories, about one-fourth more than his father who leads an intellectual life.

In consideration of the fact that in all warm-blooded animals the production of heat is the most imperative function of metabolism, and further that the dissipation of it is largely a function of the skin, there stands a relationship between these two, closer than that between metabolism and weight. In a small sphere the surface is greater, proportionally to the contents, than in a large one, for the contents increase as the cube of the radii, while the surfaces increase as the squares, so that in the smaller bodies the radiation is relatively greater and the heat production must be relatively more intense.

So it is that we find in the infant a requirement of 100 calories against 33 in the adult, but when the surfaces are compared, it is found that reckoned in calories per square decimeter, it is about the same from 10 weeks to adult life, 13 to 14 calories per square decimeter (Pfaundler and Schlossmann). The unit of weight, is, however, so much more readily obtained that we use it in preference.

Metabolism experiments carried on during rest have shown that whether reckoned on the one unit or the other they are always the same for all individuals, men or women, sick or well. It must be remembered, however, that the conditions of the experiment produce more nearly real rest than obtains in the sick-room. Differences of temperament determine very different degrees of muscular activity, while certain phases of an acute infection, like delirium, become a matter of serious import in the consideration of rest.

As has been said, all this energy manifested as work and heat by the body, resides potentially in and is derived from the food. The food, then, must furnish periodically just what the body has expended in order to keep the latter intact, for if the food is deficient, the deficit will be made up out of the body itself, as long as it can stand the drain. Our patient at rest, then, must have 2,300 calories of food a day.

CALORIC VALUE OF FOODSTUFFS

The foodstuffs are divided into three classes, fats, carbohydrates and proteins. Strictly speaking, salts and water are foodstuffs, but they have no caloric value.

Rubner's figures for the caloric value of foodstuffs still stand to-day, such slight modifications as have been made having but little practical significance. They are as follows:

1 gm. of fat furnishes 9.3 calories.
1 gm. of carbohydrate furnishes 4.1 calories.
1 gm. of protein furnishes 4.1 calories.

With these figures and a table of the average composition of the common foods, like those of Atwater, published by the U. S. Department of Agriculture, it is no difficult task to arrange a dietary.

The first step, then, in arranging a diet in acute infectious diseases, is to provide, as a minimum, as many calories as are demanded by the individual when at rest in health, 33 calories per kilo, or 2,300 in the average man.

A diet must not only contain sufficient heat units, it must also be properly balanced with reference to the three foodstuffs, and of these three, the most important is protein.

PROTEIN NEEDS

Two facts of great importance are to be kept in mind, which differentiate protein from the other foodstuffs; first, in the adult, under normal circumstances, the daily demand for protein is fixed and does not vary with the amount of work done, as is the case with the other two foodstuffs; and second, there is no provision for a storage of an excess of protein, as is the case with fats and carbohydrates. Therefore, any excess must be catabolized and eliminated.

This daily amount of protein amounts to about 100 gm., or 16 gm. of nitrogen. Voit's figures are 118 gm. of protein as ingested, which, allowing for the amount found in the stools, gives about 100 gm. net. The analysis of dietaries the world over has given a remarkable unanimity of results, which have confirmed Voit's figures.

That a man may perform hard work for months and remain in excellent condition on an amount of protein far less than this, one-half and even less, has been demonstrated by Chittenden in the most elaborate and

2. Quoted from Otto Cohnheim: Die Physiologie der Verdauung und Ernährung

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extensive set of experiments ever carried out on this subject. Physiologists, however, though they must accept the possibility of this low protein need as a fact, are not yet inclined to argue from this demonstration that such an intake would subserve the interests of the organism in the long run to the best advantage.

FUNCTIONS OF PROTEIN

Protein subserves three important functions. First, it furnishes substance, building material, to the body. This is spoken of as the "storage" of nitrogen. Second, it repairs the daily waste of the body, the wear and tear of the machine. Third, it furnishes heat in its combustion, that is, is a fuel.

It is only in early life that the first of these functions, storage, is of prime importance. At that time it is one of the most imperative of physiologic functions. The continuance of growth in length, when weight may be stationary or regressive, is a familiar phenomenon to the pediatrist, expressive of the fact that the protein is seized on with avidity even when the fuel-value of the food is insufficient for body needs. It is a curious fact that the actual amount of protein ingested in infancy is about the same month after month, but the amount devoted to storage decreases, while that used for wear and tear increases. In the first two weeks over 75 per cent. is stored; at two months 40 per cent.; at five months 23 per cent. When an individual has attained his growth, storage ceases, except on special occasions; these are during pregnancy and lactation, in the establishment of hypertrophy of groups of muscles, as in the training of an athlete, and during convalescence from wasting disease or after a long fast.

The second function, repair of wear and tear, is the important one in adult life. This has to do with maintaining the integrity of the machine as a whole and has nothing to do with the amount of muscular work, so it is a daily constant, regardless of the amount of exertion the body has been put to. It is for this purpose that the food should contain 100 gm. of protein a day in the adult diet.

The third function is incidental. Protein does furnish heat, but it is not an economical source of supply. In the infant the proper amount of protein furnishes about 7 per cent. of the calories; in the adult about 14 per cent.

The reason that protein is not an economical fuel lies in that peculiar property known as its "specific dynamic action." When food is ingested, the physiologic processes sequential to it produce heat. The amount of such heat induced by fat and sugar is slight and negligible, but not so protein. The ingestion of this substance gives rise to a production of heat equal to a trifle more than 30 per cent. of its caloric value.

The source of this heat is a matter of dispute, but it would seem to be due to the work of the glands of secretion and to cell activities with which we are less acquainted. Lusk has intimated that in the case of protein it may be in part due to the denitrogenization of the amidobodies. This heat is lost to the body, is waste heat, under the conditions of temperature and physical regulation of heat in which man lives. He cannot utilize this heat for purposes of cell-life.

This loss of heat by the specific dynamic action of protein may be expressed in this way: that to get the caloric value of 100 gm. of protein one must ingest 140 gm. of the food. It is this increased heat that must be dissipated that has led naturally to a limitation of meat diet in hot weather and to its general elimination from the diet of fever.

The second step, then, in arranging a diet in the acute infectious diseases, is to provide enough protein to replace the wear and tear, an amount which hardly differs from the general demand in health. It may be placed at 65 to 80 gm.

Fat and carbohydrates differ from protein in two very striking ways as articles of diet; first, when utilized by the body the oxidation is complete and they are eliminated as carbon dioxid or water, while the nitrogenous moiety of the protein is not completely oxidized and entails work on the part of the kidney to eliminate it, which the other foodstuffs do not require; second, an excess of fat and sugar beyond immediate needs is stored in the body as fat and does not demand prompt elimination like the excess of protein.

The proportions of the three foodstuffs in an average dietary is protein 100 gm., fat 50 gm., and carbohydrates 400 to 500 gm., giving in the neighborhood of 3,000 calories.

MILK

No food in infectious diseases has been used so much as milk, and frequently to the exclusion of all others.

An excellent milk will show on analysis about 4 per cent. of fat, 4.5 per cent. of sugar and 3.5 per cent. of protein, or, to the liter, 40 gm. of fat, 45 gm. of sugar and 35 gm. of protein. Using Rubner's caloric values as given above, we see that the caloric value of a liter of milk is 700; reduced to quarts, there are about 640 calories to the quart or 20 to the ounce—a convenient figure as a mnemonic.

A liter contains 35 gm. of protein.

It will be seen presently that a low estimate of the caloric needs in fever of an average individual is 3,000. To meet this one would have to administer over a gallon of milk, which would contain over 140 gm. of protein.

These figures sufficiently demonstrate how ill adapted an exclusive milk diet is to meet the needs of an individual suffering from an acute infection.

STANDARD PORTIONS

When one comes to study the tables of composition of foodstuffs, it is plain that the establishment of a dietary to respect the caloric requirements and the protein needs of a patient is a task outside the time and patience of an active practitioner. It was with an appreciation of this fact that Professor Irving Fisher,[3] of Yale, published his tables of standard portions.

It will be seen from the table representing a few of these articles selected how remarkably the ordinary servings of common articles of food, or at least multiples or simple fractions of them, amount to just 100 calories.

In some of our hospitals the nurses are now instructed to bring food to the patient in these portions, so that the estimate of the daily intake can be easily made with a degree of accuracy that answers all practical purposes, and because the daily exhibition of these portions is an education to both the medical and nursing staffs. It soon becomes an easy matter to think of the ordinary articles of diet in terms of units of 100 calories.

The object of our consideration is a patient suffering from an acute infectious disease. So far I have discussed only the food requirements of a man in health at rest. Such a discussion is relevant to this subject, however, because the requirements of the patient are the same plus a certain additional need determined by the infection itself.

3. Fisher, I.: THE JOURNAL A. M. A., April 20, 1907, p. 1316.

TABLE OF FOOD-VALUES IN UNITS OF 100 CALORIES	Protein in Gm.
Milk, 5 oz.	5.
Cream, 16 per cent. (2 oz.)	1.5
Buttermilk, one and one-half glasses (9.5 oz.)	8.
Koumis, one glass (7 oz.)	5.
Whey, two glasses (13 oz.)	3.5
Eggs, one and one-half	10.
Whites of eggs, 6	24.
Yolks of eggs, 2	4.5
Oatmeal, one and one-half serving (5.5 oz.)	4.25
Boiled rice, ordinary cereal dish (3 oz.)	2.5
Hominy, large serving (4.2 oz.)	2.5
White bread, home made, one thick slice (1.25 oz.)	3.2
One small Vienna roll (1.25 oz.)	3.2
Butter, one pat (1.5 oz.)	0.0
Sugar, three teaspoonfuls, one and one-half lumps (0.8 oz.)	0.0
Oil, one-third ounce	0.0
Codfish, two servings (5 oz.)	23.
Halibut steaks, one serving (2.8 oz.)	15.
Mackerel, Spanish, one serving (2 oz.)	12.2
Shad, one serving (2.1 oz.)	11.2
Salmon, small serving (1.5 oz.)	7.3
Oysters, 12	12.
Roast beef, ordinary serving (1.8 oz.)	10.
Small sirloin steak (1.4 oz.)	7.5
Leg of lamb or mutton, ordinary serving (1.8 oz.)	10.
Lamb chop, one, small (1 oz.)	6.
Bacon, small serving, medium fat (0.5 oz.)	1.5
Chicken, broiler, edible portion, large serving (3.2 oz.)	19.
Turkey, large serving (1.2 oz.)	7.
Potato, baked, one, good size (3 oz.)	3.75
Potato, sweet, baked, one-half average potato (1.7 oz.)	1.5
String beans, five servings (16.66 oz.)	3.75
Spinach, two ordinary servings (6.1 oz.)	3.7
Peas, green, one serving (3 oz.)	5.7
American or Swiss cheese, 1.5 cubic inches (0.75 oz.)	6.
One baked apple, 3.3 ounces	0.5

There are four factors that enter into the problem of feeding in acute infectious diseases that render it distinct. They are (1) gastro-intestinal disorders; (2) pyrexia; (3) toxemia; (4) starvation. The last of these it is the plea of this paper to prevent.

Starvation in fever has been a tradition in medicine that has lost but little authority with the passage of time and finds wide acceptance to-day. The legitimacy of such practice I wish to examine.

DISTURBANCE OF GASTRO-INTESTINAL FUNCTION

It cannot be denied that the gastro-intestinal tract is not indifferent to the effects of the infection. We are all familiar with the dry mouth, the coated tongue, the anorexia and the tympanites of many of the patients.

One feels little inclined to urge food on so unwilling a receptacle and this feeling has plead potently with many practitioners to establish insufficient, often starvation dietaries.

Investigation has shown that the salivary secretion is lessened, that the output of hydrochloric acid is diminished and the motility of the distal portion of the intestine is impaired. It has been claimed that the motility of the stomach, too, is prejudiced (von Leyden and Klemperer), but von Noorden maintains that that has not been the case in the patients he has studied.

More important still, assimilation seems to be good, and von Leyden and Klemperer[4] found that in different patients with high fever 89 per cent. to 94 per cent. of easily digestible fat was absorbed and 91 per cent. of protein. Moreover, they found no carbohydrate in the stools unless excessive amounts had been ingested or diarrhea prevailed.

Taking these data and what I have seen of liberal feeding in febrile conditions, I am convinced that the ability of the alimentary tract to perform its normal functions in fevers has not been duly appreciated and the withholding of food on the supposition that this organ is crippled is unjustifiable.

I do believe that in the incipiency of an acute infection these functions are more in abeyance than later, but that they quickly become competent. I also believe that the state of the mouth and digestion is due in no small measure to an insufficiency of water and is greatly aggravated, not by the giving of food, but by the withholding of food, which entails a destruction of body tissue and sets on foot abnormal metabolic processes.

4. von Leyden and Klemperer: Handbuch d. Ernährungs-Therap., 1904, ii, 332

FEVER

The term "fever," as ordinarily used, connotes the sum of two distinct factors: (1) pyrexia and (2) toxemia. I wish to discuss them separately, and when, under pyrexia the word "fever" is used, it is to be taken in the sense of an elevated temperature alone, i. e., pyrexia.

PYREXIA

There has been an endless controversy from remote times as to the significance of fever, it being contended on the one hand that it was a deleterious factor in the disease, on the other, that it was beneficial and had a meaning that was to be respected; purposeful, the teleologist would say.

This is not the place to discuss at length fever and its relation to disease, but I am in agreement with the conclusions of careful students of the subject that "fever is a specific reaction against injurious materials which affect the tissues"; that it "is in its essentials a protective reaction," to quote from the excellent article on fever by Dr. W. G. MacCallum.[5]

There has been a wealth of work done to prove this statement, which one will find set forth in detail in the article just referred to and in a critical review of the subject by Hermann Ludke.[6]

Pyrexia below 104 F. is to be let alone; it is useful; above that figure it adds an element of harm and then antipyretic measures are indicated, but not till then. It must be remembered that many so-called antipyretic measures, such as the cold baths, are directed not toward the temperature, but to the circulatory and nervous system, and are of the highest value when these systems are in distress. The phenomena of fever lead rapidly to the assumption that there is a great increase in heat production and a marked retardation of heat dissipation, in other words, a great accumulation of heat in the body. This is not so. The actual increase in the oxidative processes is relatively small, while the relation between heat production and heat dissipation is but little interfered with. What seems actually to take place is the regulation of these processes on a higher level, so to speak; what level, that is, at what temperature, depending on the effects of the toxins on the heat-regulating mechanism. This mechanism, however, under such conditions, does not display the same degree of stability as in the normal individual, but a lability that characterizes the temperature curve in infections, and, indeed, gives their individual stamp to them.

I have said that the increase of heat production in fever is relatively small. The figures vary; sometimes there is no increase, but on the average it amounts to about 25 per cent. This might seem considerable did we not pause to consider that in strenuous muscular exercise the increase of heat amounts to several hundred per cent.; for example, the 8,000 calories of the Maine woodsman to the 2,300 at rest.

The fact that such great increase in heat in the normal man causes no rise of temperature shows that the elevated temperature of fever has quite another origin than that of heat production; that it is the result of the toxins and not the heat. However, as our patient is at rest,

5. MacCallum, W. G.: Arch. Int. Med., 1909, ii, 569, and the Harvey Lectures, 1908-1909.
6. Ludke, H.: Ergebn. d. Inn. Med. u. Kinderh., iv, 493.

this 25 per cent. increase has to be added to the 2,300 calories allowed him, in order to make good his daily losses, *so that it may be said that the requirement of the febrile patient is 40 calories per kilo or 2,800 calories, near enough to 3,000 to make that our guide.*

One other effect of pyrexia I wish to mention; that is, its destructive action on protein. As Lusk says "Infectious fevers are characterized by a toxic destruction of body protein"; but there are three factors concerned in the loss of nitrogen during an acute infectious process; (1) pyrexia, (2) toxins, (3) starvation.

The study of non-toxic fevers, such as are induced by exposure to heat or by puncture of certain parts of the brain, show that the pyrexia can induce protein catabolism, but it seems to demand a temperature of 102 F. or over to bring about this protein loss, and experimentation has shown that a sufficient feeding can control this loss.

TOXEMIA

It was recognized that apart from the effect of pyrexia and apart from starvation, or at least in the presence of food sufficient to meet all the theoretical considerations we have so far set forth, there still continued to be a considerable loss of protein in the acute infectious diseases. This loss came to be accepted as inevitable by the ablest investigators in the field and was attributed to the effects of the toxins and was called the "toxic destruction" of protein. Just how the toxins brought about this protein loss was and is a matter of conjecture. It has been attributed by Krehl to actual cell destruction; by others to an exciting effect on metabolism by the toxins; by others to an expression of the production of antibodies and other protective substances. Certain it is that is it dissociated from the pyrexia, as such; for it is often intense when there is no rise of temperature. Taken with this destruction it has been suggested that a weakened power of regeneration exaggerates the difference between catabolism and anabolism.

STARVATION

This does not belong to the acute infections as a rule, except as it is inflicted on the patient by an insufficient dietary. Energy must be supplied to the body each day and when the food does not do it, the body substance does and the protein is called on to do its share at the sacrifice of cell integrity.

At the present moment one of the most intensely interesting fields of medical research is that devoted to metabolism, the building up and breaking down, anabolism and catabolism, the storage of energy and its dispersion; what one writer has called the "most fundamental characteristic of life, energy-traffic." The intimate processes of protoplasm yield their secrets stubbornly, but we know what they have to work on and we know what they yield back; we know the fuel and the ash, the intake and the output, and from the knowledge of these two, we deduce much that has occurred in the process of the change.

Nitrogen is the basic substance on which the body structure is erected. It is ingested with the food and it is expelled in the urine, the stools and in lesser measure by the skin. In health the intake and output balance each other, and the nitrogen eliminated is divided among a number of combinations which maintain a pretty constant relationship to each other. These nitrogen combinations are spoken of as the "nitrogen partition."

In disease the balance of intake and output is disturbed and the relationship of the combination undergoes a change, so that the study of the nitrogen partition in disease is a tree that bears much fruit.

I have said that the nitrogen elimination is divided among three organs, the kidneys, the intestine and the skin. As for the skin, its output is negligible except when made to functionate in an unusual manner, as in very profuse perspiration. Under such circumstances it has been known to yield as much as 0.75 to 1 gm. of nitrogen.

The stools, however, contain an appreciable amount of nitrogen. Some very curious ideas prevail even among physicians about the feces; e. g., that they represent the residue of the food; that the amount depends entirely on the amount of food ingested; that if there be no food taken there should be no feces. The stools do not represent the residue of food so long as the food is free from indigestible matter. Stools occur in fasting people and a comparison of these stools with those ordinarily passed shows that there is no difference in their composition or relation of constituents, no matter whether there be much or little food taken, and no matter whether that food be protein, carbohydrate or fat. The amount increases but little with the food and in no sense in proportion to the amount ingested. If excesses of food are eaten, a minimum residue may appear and, of course, cellulose or other indigestible substance is found.

The stools are made up of the residues of the digestive juices, mucus, desquamated epithelium, bacteria, the products of bacterial action, salts and water. Of the salts, it must be remembered that the intestine is the excretory organ for iron and calcium and for the most part of phosphorus and magnesium.

The nitrogen content varies from 1 to 2 gm., but on the whole is so constant that it has been considered as furnishing a definite per cent. of the nitrogen ingested (15 per cent.) without prejudice to the accuracy of the metabolism study.

It is to the urine that we turn, however, to derive important information; for 80 per cent. to 90 per cent. of the nitrogen is excreted by the kidney as urea, uric acid, ammonia, xanthin bases, creatinin and amido-bodies.

The study of the total excretion and of its individual constituents is of importance.

TOTAL NITROGEN

It has been invariably found that the amount of nitrogen excreted far exceeds the amount ingested, and so much the more, the more severe the process.

It is common enough to find losses of 8 gm., 12 gm., 16 gm., and more of nitrogen a day; that is, in excess of the intake; and, that, too, when on a diet usually considered satisfactory. This latter figure is the amount of nitrogen demanded in Voit's standard dietary, and if it were interpreted in terms of muscle tissue would mean a loss of a pound of such tissue.

Such figures will be found repeatedly in the tables of Shaffer and Coleman's studies on metabolism in typhoid fever,[7] and those of Wolf and Lambert[8] on pneumonia, to mention some of the most elaborate of the recent investigations.

The study of the total nitrogen and the determination of the "negative nitrogen balance," as it is called, tells us that there has been loss of substance to the body, but it does not tell us what tissues are suffering this loss, nor yet whether the metabolic processes are carried out in a qualitatively normal manner. Such scant information

7. Shaffer and Coleman: Arch. Int. Med., 1909, iv, 538.
8. Wolf and Lambert: Arch. Int. Med., 1910, v, 406.

as we have along these lines is derived from the study of the parts that go to make up the total; that is, the nitrogen partition.

It is the small portions that in the past excited but little interest that are now yielding us the most information. One of these portions is the substance creatinin. When Folin[9] published his classical analyses of thirty normal urines, he called attention to the fact that this substance creatinin remained practically constant, no matter what the amount of protein ingested. On this fact he elaborated the theory that this substance was an indicator of "tissue" or "endogenous" metabolism in contradistinction to "intermediate" or "exogenous" metabolism, of which urea is the chief representative. Another representative of this "constant" or "endogenous" metabolism is neutral sulphur,[10] and to a lesser extent, uric acid and ethereal sulphates.

Folin showed that this substance was constant in the individual, but varied in different individuals according to body weight. He spoke of it as an "index to the amount of a certain kind of protein metabolism occurring daily in any given individual,[9] but defined that kind of "protein metabolism" no further.

Shaffer,[11] however, added to our information a little further, by showing that not only was the output of creatinin in an individual constant from day to day, but also from hour to hour, amounting from 7 to 11 mg. of creatinin nitrogen for every kilogram of body weight per twenty-four hours; this he called the "creatinin coefficient." He, moreover, gave reason to believe that the substance was an index, not of total tissue metabolism, as Folin thought, but of one tissue metabolism, that of the muscle, as its output seemed to show a parallelism to the muscular efficiency or strength of the individual. It has nothing to do with the muscular work, but rather with the machine, the muscle itself. He suggests that it is an index of muscle tone. If one may use an analogy without too close adherence to details, one might consider the creatinin to represent the friction, the daily wear of the muscle machine, not at all the product of its work.

Here was an important clue to follow up. Any substance that showed the ravages of disease in so important a tissue as muscle was worth looking after. Already studies on the substance in pathologic conditions had assisted to suggest the above view of its significance and further work confirmed it.

It was found that creatinin was diminished in conditions of muscular inefficiency, such as amyotonia congenita, myasthenia gravis, muscular dystrophy,[12] exophthalmic goiter, and in the as yet undeveloped muscles of the infant.[13]

How is it affected by acute infectious fevers?

There is a pretty constant agreement among the investigators that it is increased during the height of the fever and is most marked when the nitrogen loss is the greatest, but there is no numerical relationship between the two. During convalescence and even before, there is a diminution in the excretion which may be attributed to muscular weakness. It must be interpreted in the sense that the febrile condition increases the wear and tear of the muscle tissue. This increase in creatinin was determined for typhoid fever,[14] for pneumonias, for erysipelas—to call attention to some of the most recent work.

So much for increased wear and tear of the protein constituents of the body during the acute infectious process; but is there anything that bespeaks by its presence actual destruction of a definite tissue? There is a substance in the tissue closely allied to creatinin, which differs from it only by the presence of one molecule of H_2O in its structure (creatinin is a dehydration product of creatin), which does not appear normally in the urine, or appears only in traces. This is called creatin.

Creatin is to be found in the urine only in abnormal conditions. It is found in wasting diseases, such as the cachexia of carcinoma, in starvation, and in fevers. It is derived from the muscle and its presence in the urine means destruction of the substance of that structure. It is very striking during the involution of the uterus after childbirth. It was found in all the studies on fevers referred to, and sometimes ran over into convalescence. Its disappearance from the urine is looked on as a good omen, and what interests us as dietitians is that when made to appear in starving animals it has disappeared under a pure carbohydrate diet.

Besides the creatinin, neutral sulphur and uric acid are both increased and may be looked on as further expressions of increased endogenous metabolism.

So far we have considered quantitative changes rather than qualitative in the nitrogen metabolism. Qualitative changes might be taken as evidence of metabolic inefficiency.

Evidence of this is to be looked for in the so-called "rest nitrogen." This "rest nitrogen" or "undetermined nitrogen" is that nitrogen which is left of the total nitrogen when the nitrogen of urea, ammonia, uric acid and creatinin have been subtracted. If the "rest nitrogen" increases it may be considered as being at the expense of the urea, the most important nitrogenous substance, and so indicate a defective desamidation. The amido-bodies are, indeed, the most important of the substances included in the "undetermined nitrogen." There are, besides leucin and tyrosin, indol, skatol, glycocol, proteic acids and albumoses, as well as xanthin bases.

Shaffer and Coleman found but little increase in the "rest nitrogen" in typhoid fever and the same was true of pneumonia investigated by Wolf and Lambert (there was absolute increase, but not in disproportion to total nitrogen). It may be said, then, that as a rule the urea-forming function is but little impaired, an important conclusion in considering the ability of the liver to handle the products of protein digestion.

In grave cases, such as were observed in the study of typhoid metabolism by Ewing and Wolf, the "rest nitrogen" did become high and the urea low.

These authors looked on the phenomenon as indicative of inefficiency of the liver urea formation, recalling the high "rest nitrogen" found in acute yellow atrophy.

Such patients probably suffer from an auto-intoxication in addition to the toxemia of the disease.

A high "rest nitrogen" may occur in the period of convalescence and it is believed by the investigators mentioned that the disturbances arising at times from the administration of meat early in convalescence called "febris carnis," may be due to the inability of the

9. Folin: Approximately Complete Analysis of Thirty Normal Urines; Laws Governing the Chemical Composition of Urine; A Theory and Protein Metabolism, Am. Jour. Physiol., 1905, xiii, 45, 66, 117.

10. The importance attributed by Folin to neutral sulphur as an expression of "endogenous" metabolism has more lately been called into question.

11. Am. Jour. Physiol., 1908, xxiii, 1.

12. Spriggs: The Excretion of Creatinin and Uric Acid in Some Diseases Involving the Muscles, Quart. Jour. Med., 1907-1908, i, 63.

13. Amberg and Rowntree: The Excretion of Creatinin in the Infant, Bull. Johns Hopkins Hosp., February, 1910.

14. Klercher: Ueber Ausscheidung von Kreatin und Kreatinin in fieberhaften Krankheiten, Ztschr. f. klin. Med., 1909, lxviii, 22.

metabolic functions at this time to carry on their work efficiently.

Patients may be profoundly toxic, however, without any evidence of hepatic inefficiency as determined by a high "rest nitrogen." It would seem, then, as Ewing and Wolf suggest, that the amount of "rest nitrogen" has prognostic significance.

All this shows that in acute infectious diseases there is a loss to the intrinsic structure of the body and that while such loss is entirely compatible with a perfect urea-forming function—and, indeed, the latter is but rarely impaired even in severe cases—there are yet a certain number of grave cases in which the liver has apparently through grave changes in its structure found itself incapable of desamidation and abnormal metabolic processes are in evidence.

With this knowledge it should be the effort of the therapeutist to prevent this loss and perversion of function, or at least to mitigate them. Can the administration of food accomplish this, and, if so, how shall it be ordered?

It would seem natural to conjecture that if the body was losing 10 gm., 15 gm., or 20 gm. of nitrogen a day over the intake, such a loss could be made good or prevented by increasing the intake of nitrogen to that amount. The truth of the matter is that neither the amount of the loss nor any other amount, without the help of the other foodstuffs, can bring about a nitrogenous equilibrium in man.

The recent work of Folin and Chittenden, showing the small amount of nitrogen which is really needed to establish an equilibrium, would lead us rather to use the smallest amount of protein necessary and avoid the breaking down and elimination of the superflous nitrogen radicles, by organs burdened with disease, and increasing the heat to the fevered organism by the "specific dynamic action" of the protein.

Shaffer and Coleman were able to establish nitrogen equilibrium in typhoid fever on from 10 gm. to 15 gm. of nitrogen, when sufficient carbohydrate was used. This amount will be seen to be less than the Voit standard demands, by a considerable margin.

Fat and carbohydrate both spare protein; not, of course, replacing it, for they are both nitrogen-free. Fat spares the combustion of protein to furnish heat; and weight for weight furnishes, as has been shown, over twice as many calories as carbohydrates. The fat of the body is utilized in this manner as a protein-sparer. Emaciation, which bespeaks its disappearance, makes the sufficiency of food intake all the more imperative to prevent destruction of the body protein.

Carbohydrate is a very much more efficient sparer of body protein than fat. Probably much of the demand on protein in the underfed body is for the carbohydrate moiety of its structure. Carbohydrate is imperative to life and must be had at any cost. This the ingested carbohydrate furnishes, so that it both furnishes heat as does the fat, but also subserves other functions which the fat cannot do.

Nitrogen equilibrium has been struck and the subjects kept at from 5 gm. to 8 gm. days and weeks with comfort and apparent health, when enough carbohydrate and fat are taken.

The above statements hold for the protein-sparers in health. In acute infections their influence is not so marked quantitatively. Von Noorden says that in experimentally induced pyrexia the protein metabolism is not limited to the same amount in the presence of carbohydrates as when the temperature is normal.

It would seem possible, then, by covering the caloric needs of a resting patient and adding the 25 per cent. increase induced by pyrexia, to keep a patient in nitrogenous equilibrium. In an average man this would mean, as before stated, about 3,000 calories. In practice, however, it is not true; and it was for this very reason that protein loss still continued in acute infections, when the theoretical food-needs had been liberally met, that investigators in general were convinced that this loss was due to destruction of the cell substance by the poisons of the disease—"toxic destruction"—and that no diet could prevent it.

That this loss can be prevented and that such a fact impairs the theory of "toxic destruction," the elaborate observations of Shaffer and Coleman show. They prevented nitrogenous loss and the elimination of creatin and increase of neutral sulphur, which are taken as the expression of cell destruction. They found that from sixty to ninety calories per kilo were needed to effect such a result in typhoid fever. Of this amount forty to fifty or even more calories per kilo must be furnished by carbohydrates. They point out that a loss of 10 gm. of nitrogen or 62.50 gm. of protein can furnish but 250 calories, and have no explanation to offer for the fact that 2,000 calories of carbohydrate are needed to prevent this loss.

It has been proved, then, that in some men suffering from severe acute infectious disease, the usual protein loss can be stayed by the administration of a large quantity of foods; but whether this fact could be wisely used as a basis of procedure in practice is a debatable question.

In this paper I have dealt only with those laws that constitute the science of dietetics; the application of these laws to the individual; the appreciation of those factors that make every individual deviate from the type; the adjustment of theory with conditions, constitute the art of dietetics.

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GASTRIC AND DUODENAL ADHESIONS IN THE GALL-BLADDER REGION, AND THEIR DIAGNOSIS BY THE ROENTGEN RAYS *

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Until recent years the Roentgen rays have proved of little or no value in the demonstration of pathologic conditions in the region of the gall-bladder. Even at present the demonstration of gall-stones will depend first on the presence of more or less lime salts in the stones and second on a very careful technic,[1] so that only the positive diagnosis of gall-stones is of value. However, when a cholecystitis is associated with a pericystitis leading to adhesions of the stomach, duodenum or bowel, the effects of such adhesions can be demonstrated. Isolated observations have been made from time to time, but this subject has received careful attention chiefly during the past year. In January, 1910, Schürmayer gave a demonstration of diapositives in Berlin,[2] showing the effects of adhesions of the stomach. During February, 1911, Cole demonstrated the effects of such adhe-

* Read and illustrated with lantern-slides before the Medical Section of the College of Physicians, Philadelphia, March 27, 1911.

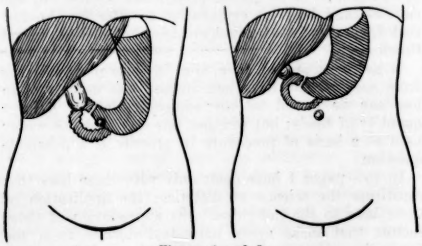
1. Pfahler: Proc. Am. Roentgen Ray Soc., 1910.
2. Fortschr. aus dem Gebiet d. Roentgenstrahlen, xv, 6.

sions on the peristaltic waves of the stomach, cinematographically, but paid little or no attention to the displacement, which I think is far more constant and more important.[3]

Schürmayer based his report on a study of hundreds of cases. He quotes Riedel as saying that the symptoms known as biliary colic in general are due not to gall-stones, but to the pulling of adhesions incident to an inflamed and attached gall-bladder, with which statement Schürmayer is in full accord.

If adhesions in the gall-bladder region have taken place, we have in the Roentgen rays a means of diagnosis which is distinctly more valuable than the direct examination for gall-stones. The recognition of the effects of these adhesions will explain the indefinite symptoms in many of these cases. This recognition depends on a modification of the normal position of the stomach and duodenum.

The normal stomach is located in the left side of the abdomen and seldom extends more than an inch beyond the median line in the standing posture. The pylorus is located about an inch above the umbilicus. The lower



Figures 1 and 2

Fig. 1.—Stomach in normal position, but the liver and gall-bladder swollen and thereby approaching more closely the stomach and duodenum, and more easily permitting the formation of adhesions to these organs.

Fig. 2.—Liver and gall-bladder returned to their normal position, the stomach and duodenum drawn upward and to the right by adhesions.

pole of the ideally normal stomach is on a level with the lower border of the pylorus, but the lower pole of the average healthy adult is distinctly lower, and in gastroptosis may extend to the crest of the pubes.

In chronic cholelithiasis and cholecystitis the associated swelling of the liver and gall-bladder brings them nearer to the duodenum and stomach. The pericystitis permits and leads to adhesions to these organs. Then when the swelling is reduced spontaneously, or as a result of medicinal treatment, these adhesions pull the stomach and duodenum upward and to the right. It is the recognition of this change of position of these organs which can be made visible, and enables us to definitely make a diagnosis.

In these cases the clinical symptoms appear during that period of digestion when the motor function of the stomach and duodenum are at their height, and especially when these adhesions interfere with the emptying of the gall-bladder, either directly or because the gall-duct has been drawn abnormally high. If the effects of these adhesions are kept clearly in mind it can be understood why symptoms develop in these patients after they have eaten an abnormally large meal, which at least will produce a dragging.

3. Address before the Academy of Medicine, New York, Feb. 16, 1911, at which I demonstrated by lantern-slides the effects of adhesions in twenty-six cases.

During active peristalsis these adhesions are being pulled on each time that a wave passes, and if there is associated inflammation a constant aching pain is the result. If the inflammation has subsided, then of course, the pain is less, and an increase in the inflammation as a result of errors of diet or other cause will be associated with an exacerbation of the pain.

THE EXAMINATION

In these cases, I first make an examination directly of the gall-bladder region to detect, if possible, the presence of stones, since such an examination is valueless after the stomach examination has been begun.

I then give the usual bismuth mixture (bismuth subcarbonate 1 ounce to a glass of buttermilk). This is carefully observed as it enters the stomach and is carried to the pylorus. Instead of dropping quickly to the lower pole as it does normally and in gastroptosis, it is carried more slowly to the right of the median line and distinctly above the umbilicus. This is observed on the fluoroscopic screen in the standing posture.

Great care must be taken to avoid error. The stomach is ordinarily a very movable organ, therefore, pressure will influence its position very much. On this account the position of the stomach must be studied with varying degrees of pressure, and with all pressure removed. This study is possible only under fluoroscopic examination, which I regret very much, since all who know recognize it as a dangerous procedure. It may be dangerous even under the best protection, but should be entirely avoided if the operator is exposed to any appreciable amount of rays.

The plates are, I believe, equally important, and I always make one or more after I have completed my fluoroscopic work. The plate gives more detail, and permits of less hasty study. On it one can often trace the course of the duodenum when it cannot be followed fluoroscopically. While a plate alone may give a certain amount of information, I believe that it can seldom be depended on alone to determine the position of the stomach. This is especially true when the plate is made with the patient lying on the abdomen, in which the effect of pressure and position almost certainly will lead to error.

The position of the stomach and the duodenum will, of course, vary with the location and the extent of the adhesions. In some cases the pyloric end can be traced directly to the gall-bladder, and makes a picture very similar to that shown in the older text-books as the normal position of the stomach. In this connection, it must be borne in mind that while these old illustrations are accurate, in that they represent the position of the stomach as studied in the anatomic and surgical rooms, in which the subject is lying on the back, they are entirely inaccurate as representing the living subject in his normal upright position.

In some cases the duodenum only is involved by these adhesions and the position of the stomach itself is influenced only secondarily and slightly. The duodenum, however, is drawn out of place, is irregular in shape and there may be some interference with the passage of food.

Schürmayer recommends that in order to eliminate error the knuckles of the index and middle fingers of the left hand be pressed strongly against the duodenum and pylorus and an effort made to hold these parts down while the liver moves upward during expiration. This is a dangerous procedure to the Röntgenologist, and, while it can be done with carefully planned protection,

in my experience there has nearly always been too much tenderness to permit of sufficient pressure. Of course when this can be done, it gives valuable confirmatory evidence.

Conclusions as to the position of the stomach are of no value unless they are based on a full knowledge of the normal position of the stomach and the conditions which influence it, such as pressure, varying degrees of filling, the tonicity of the stomach wall, etc.

In addition to the study of position one should observe carefully the effects of the adhesions on the peristaltic waves. This is best done by a careful fluoroscopic examination. If adhesions involve the stomach wall they are likely to interrupt or modify the peristaltic wave. This interference is most often seen in the wave on the lesser curvature.

At times it is extremely difficult to differentiate between simple adhesions and those due to carcinoma. Usually a more or less characteristic encroachment on the lumen of the stomach will serve to diagnose carcinoma, but at times this is impossible. We should bear in mind the general history and other clinical evidence, and finally we may have to resort to an exploratory operation in order to make the diagnosis.

The material on which this paper is based consists of about thirty cases, most of which show the effects of adhesions incident to gall-bladder disease, others due to tuberculosis, and finally a group due to carcinoma. Most of the patients have been operated on and the diagnosis confirmed. The others I hope to see operated on since this is the only treatment.

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CONCLUSIONS

1. Gall-bladder disease is liable to give rise to adhesions.

2. These adhesions cause a definite displacement of the stomach and duodenum which is recognizable by the Roentgen rays.

3. The evidence of adhesions is best obtained fluoroscopically in the upright position, in which the errors of pressure must be eliminated, but plates should also be made in every case for record and for more detailed study.

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A NEW AND APPARENTLY SUCCESSFUL METHOD OF TREATING METABOLIC OSTEO-ARTHRITIS

SO-CALLED ARTHRITIS DEFORMANS

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In the last[1] of a series of papers on the so-called rheumatoid diseases, I briefly outlined a method of treatment for one, the most serious, condition usually included in this group. This method of treatment I have now used for four years, and as it has proved efficacious in nearly all cases, and especially so in those usually considered hopeless, I consider it worthy of detailed description.

The greatest difficulty in judging the results of a given form of treatment in the so-called rheumatoid diseases is due to our extremely indefinite and faulty nomenclature; the majority of the reports of the treatment give only a vague idea of the nature of the disease under treatment; and in by far the majority of instances a number of evidently diverse conditions are treated in exactly the same way. For this reason, as the condition to be discussed here is a distinct pathologic and clinical entity, I must, in order to avoid confusion, briefly recapitulate what was said in the previous papers on the classification of the so-called rheumatoid diseases in general and the diagnosis of metabolic osteo-arthritis (so-called arthritis deformans) in particular.

Chronic rheumatism, rheumatoid arthritis, arthritis deformans, osteo-arthritis, and various other less familiar appellations, are used to designate a group of dissimilar diseases, variations of the same disease, entirely distinct conditions, or something involving a joint with which the observer is entirely unfamiliar. No two investigators seem to be able to agree exactly on a clinical or pathologic entity for which one or more of these terms shall be definitely applicable. Under these circumstances, an attempt to acquire a definite understanding of these joint conditions must fail if these names are retained. It is much simpler, and we are much more likely to attain definite results if we ignore all the previous attempts at classification entirely, begin afresh, and consider the joint diseases just as we would those of other organs under similar circumstances, i. e., according to the principles of pathology.

Pathologists divide the diseases of the organs generally into two classes, viz., the inflammations and the degenerations. As there is no reason to believe that the mesenchymal tissues of the joints are fundamentally different from those in other organs, there should be no necessity to prove that these mesenchymal tissues react similarly to pathogenic influences. As a matter of fact, the conscientious and enlightened pathologist will find that the pathologic changes are exactly analogous. Hence a discussion of the pathology, which would lead us too far, is omitted.

What is true of the pathology is also true of the clinical phenomena. Indeed, as the joints are superficial and their functions purely mechanical, the local symptoms—pain, loss of motion, muscular atrophy, deformity, etc.—are rarely characteristic of a particular disease. The presence of some or all of these joint symptoms simply indicates that there is joint abnormality, but gives absolutely no clue to the nature of the condition. For this reason, it is quite impossible to formulate a practical or scientific classification of the joint disease with the deformity, the character of the effusion, or any of the other intrinsic joint symptoms as the starting-point. In fact, all the previous attempts to classify the joint diseases have failed just because these symptoms have been used as the basis of differentiation.

In the joint diseases, therefore, even more than in those of the other organs, the fundamental differentiation must depend not on the specific reaction of the affected organ but on the clinical phenomena, induced by the fundamental pathologic condition. As soon as this is appreciated, all the difficulties of classifying the polyarticular joint diseases are practically overcome.

Thus the characteristic symptoms of the inflammations are abrupt onset, more or less constitutional reaction, a definite course with a marked tendency to resolution; those of the degenerations, insidious onset, a gradually progressive course without tendency to a definite termination. And, leaving other considerations aside, it will be found that joint diseases naturally divide themselves into two great classes according to these clinical characteristics. Thus we have, (1) a class of joint diseases which begin more or less acutely, with, usually, a definite onset (rise in temperature, general

1. Am. Jour. Med. Sc., June, 1909.

constitutional disturbance), local signs of inflammation, followed by remissions or intermissions, and a definite termination in complete recovery or permanent but never progressive joint disability; and (2) a group in which the disease comes on insidiously, without acute constitutional reaction, running a gradually progressive course, leading gradually and progressively to joint disability.

The first are the inflammations; the second are the degenerations.

Just as in the other organs, the inflammations are due to infection or trauma. In the polyarticular infections, the causative microorganism is demonstrable in some cases; so, for instance, in so-called sepsis, gonococcal or pneumococcal infections, etc. In a large number of cases, isolation of the offending microorganism is not attempted, because it is impractical, or fails. But these cases present the same clinical and pathologic phenomena, as those in which the microorganism is demonstrable. The fact that the organism is not demonstrable should therefore be no reason for grouping these cases under a separate head.

As a matter of fact, the majority of the advanced clinicians recognize and so classify the polyarticular infections. The misinterpretation of these conditions does not occur so frequently during the acute stage. The confusion arises when such patients are seen after the acute stage has subsided. As has been said, one of the cardinal signs of an inflammatory or infectious process is its tendency to run a definite course. This is as true of infections involving joints as it is when other organs are affected. Though the tendency to recover is always present, however, it does not necessarily follow that resolution is perfect. In a great many cases, though the active disease subsides, the patient is left with a varying number of weak or deformed joints. When he attempts to use these weak or deformed joints, he finds it impossible because of the pain or deformity, or both. It is then that he begins his wandering as a subject of chronic rheumatism, rheumatoid arthritis, arthritis deformans, etc. He is sent to springs, massaged, baked, or subjected to various forms of mechanical treatment. If he has only weak joints, he may recover in spite of the treatment. If he has bony ankylosis or limitation of motion from tendon or cicatricial contraction, he does not improve, and he frequently grows worse.

What the majority of investigators and clinicians have failed to appreciate is that such an individual is not suffering from an active disease at all. He has simply the results of a disease. It is therefore useless to attempt to study the pathologic changes or to seek the etiology of the disease in such cases; not only useless but actually harmful to subject these patients to treatment for constitutional disease by internal medication and diet. What these patients need is surgery, intelligently applied. In those cases in which nothing can be done, the recognition of the condition will at least save the patient the additional suffering of the treatment usually proposed.

It is not my object to speak of the treatment of the polyarticular infections in this paper. However, this may be said: in a great many cases much can be done to alleviate suffering, and remedy the disability which results from these conditions. To help such patients, we must, however, be conversant with the joint physiology, mechanics and pathology. One must at least be able to make a diagnosis, i. e., must first of all differentiate active disease from disability, and polyarticular infection or its results from degeneration.

Few indeed seem able to do this. Dissimilar as are the infections and the degenerations, the treatment they receive, from the average practitioner and the orthopedic surgeon alike, is the same in either case; this in spite of the fact that in many cases the failure to differentiate one from the other is disastrous to the patient, and that such differentiation is nearly always a very easy matter.

Though there are other characteristic differences, the most definite differential feature between the degenerative and the inflammatory joint diseases is the course of the disease. In the inflammations, the onset and the course are definite, terminating in recovery or more or less permanent damage. In the degenerations, the onset is insidious, and the course is gradually progressive. The joints gradually become deformed and the deformity and disability gradually increase. In the infections, after the subsidence of the acute attack, whether one or more joints are affected, the disability remains the same, and no more joints are involved unless there is an actual recrudescence of the original infectious process. In the degenerations, not only are the onset and course insidious, but new joints, in which the disease runs the same course, are gradually and progressively involved.

If only these few fundamental differences are appreciated, it seems to me almost impossible to confuse the inflammatory or infectious diseases with the degenerations. And this accomplished, all the difficulty of classifying the polyarticular joint diseases disappears. For, with the recognition of the difference between the two fundamental conditions, instead of the unscientific and misleading classification of the joint diseases into several groups, one of which, having a single name or two or three meaningless names, comprises all forms of the infections, degenerations and deformity, we have the natural and scientific division of the joint diseases into two definite classes, with names which at least suggest the clinical and pathologic phenomena.

Moreover, if these two fundamental classes are each subdivided, according to the location of the disease in the joint—arthritis when the soft parts are involved, osteo-arthritis when the articular ends of the bones are involved—we can suggest the clinical and pathologic condition and the location of the disease by a single name. Thus:

1. Inflammation or infections:
   A. Infectious arthritis.
   B. Infectious osteo-arthritis.
2. Degenerations, i. e., trophic diseases:
   A. Trophic arthritis.
   B. Trophic osteo-arthritis.

Within the subgroups we can still more definitely classify the conditions when the etiology is known. With the infections, this is often possible, for the offending organism can often be isolated or recognized by the special clinical phenomena it produces.

When we come to etiologic grouping of the degenerations, however, the task is somewhat more difficult because it is often impossible to determine the underlying cause. We know, for instance, that degenerative joint changes appear as the result of senility (senile arthritis, senile osteo-arthritis) and in the course of certain organic nervous diseases (neurotic osteo-arthritis, tabes, syringomyelia, etc.). These are usually monarticular conditions, and are easily recognized and classified.

In the generalized or polyarticular degenerations, on the other hand, the etiology is unknown in the majority of instances and therefore cannot be specified. In my previous paper I suggested that these be termed "metabolic," which in this instance is intended to designate

not a known chemical abnormality but the pronounced general disturbance of the nutrition so characteristic of these conditions; and which, as shown in my last paper[1] is the direct cause of the joint abnormality. By far the majority of cases of the polyarticular degenerations are osteo-arthritides. Metabolic arthritis is a comparatively rare condition. Thus the joint degenerations are grouped as follows:

Degenerative joint diseases:
- **A. Trophic arthritis.**
  - **(1) Metabolic arthritis.**
- **B. Trophic osteo-arthritis.**
  - **(1) Senile osteo-arthritis.**
  - **(2) Neurotic osteo-arthritis.**
  - **(3) Metabolic osteo-arthritis.**

It is with the treatment of metabolic osteo-arthritis that the present communication deals. I briefly describe its principal features. For a complete exposition of the pathology and etiology I must refer the reader to my previous paper.[1]

This is the disease generally called arthritis deformans, or rheumatoid arthritis. Only a few writers, however, have described it as a distinct disease. Bäumler reserved the name "arthritis deformans" for it alone, and Schuchardt described the clinical phenomena more or less accurately and called it "arthritis nodosa." With the exception of a few of the older writers, Adams, Charcot, and Virchow, who at least more or less completely differentiated it, these are the only writers who do not to some extent affiliate the condition with the polyarticular infections or their sequelæ.

Metabolic osteo-arthritis, as the name suggests, is a polyarticular joint degeneration, which involves the articular ends of the bones primarily, and which is due to a disturbance of the nutrition. The condition, being due to a general anomaly, is invariably polyarticular and the joint involvement is nearly always symmetrical. It attacks the peripheral joints first, and a number of joints are usually affected simultaneously. The onset is invariably insidious. Not only is the onset insidious, but in cases uncomplicated by mechanical irritation the course is gradually progressive. In some cases, it is true, the disease advances more rapidly than in others, but even in the most malignant forms the disease advances gradually, and there is never an abrupt onset with acute local and general reaction. In the majority of cases the disease progresses slowly and gradually. Gradually increasing weakness (called stiffness by patients), and passive motion limited only by the muscular contraction are the more characteristic joint symptoms. Joint swelling may be entirely absent throughout the course of the disease. As far as my experience goes, the swelling from effusion, when present, is nearly always due to a mechanical irritation (i. e., the use of the affected parts); and the nodular swelling, said to be characteristic, is purely suggestive, being most often due to the atrophy of the periarticular structures which make the articular ends of the bones appear more prominent. Pain is also most variable, though in some it is very severe, in others it is slight or entirely absent.

Preceded by more or less decided subjective symptoms —pain, formication, feeling of weakness, etc.—a number of peripheral joints (fingers, toes, wrists, ankles) gradually become weak, or, as the patient says, stiff. This weakness or stiffness gradually increases and, with or without pain or swelling, is followed by deformation. The deformity, which, as I showed in my previous paper,[1] is due to muscular contraction during the early stages and bone absorption in the later stages, gradually increases; and though passive motion is not entirely limited, the deformity gradually and progressively leads to crippling. In the meantime, other joints become involved in the same insidious and progressive manner, and in the severer cases, beginning in the periphery and proceeding toward the trunk, all the joints, including those of the spine, may become involved. Though there are never true intermissions, even in the severer forms of the disease, there are times when the disease progresses less rapidly or apparently remains stationary for a variable length of time. The periods of quiescence may even continue for a number of months, or, in rare cases, a year or more; but in the severer forms the disease ultimately resumes its relentless course and the individual finally becomes a helpless cripple. In the milder cases, the disease advances very slowly, and though ultimately a number of joints becomes involved, years may elapse before there is marked disability.

The differential diagnosis should occasion no difficulty. With one exception (polyarticular form of senile osteo-arthritis—Heberden's nodes), there is no other form of polyarticular osteo-arthritis in which the joints are symmetrically or progressively involved. As has been said, metabolic osteo-arthritis is usually confused with the polyarticular infections or the deformity resulting therefrom. The history of the case—acute onset, a definite course, the irregularity of the joint involvement, and the inertia after the general condition has subsided—as compared with the insidious onset, symmetrical joint-involvement, and progressive character of metabolic osteo-arthritis, should make the diagnosis easy.

In many of the cases, moreover, the character of the joint changes is significant. In the infections, the condition being inflammatory, there are, when there is not complete recovery, adhesions in arthritis, and bone ankylosis or bony outgrowths, limiting both active and passive motion in osteo-arthritis; in metabolic osteo-arthritis, passive motion is limited only by tendon contraction. But, as has been said, one should never make the diagnosis from the intrinsic joint symptoms alone, for though complete ankylosis or marked limitation of motion is a fairly sure sign that we are *not* dealing with metabolic osteo-arthritis, the fact that there is deformity and free joint motion does not absolutely signify that we are dealing with it. Though this is rather unusual, the polyarticular infections sometimes leave nothing behind but short tendons or a certain amount of capsular thickening or bony outgrowth, which may not limit the motion to any great extent. When, however, we have passive motion limited by tendon contraction or deformity alone, and a history of an insidious onset, more or less symmetrical involvement, and a gradual progressive course, the diagnosis is unmistakable. Even when there is a more or less continuous fever, say 100 to 101 F. (rectal), or occasional signs of joint irritation (i. e., effusion and pain), these signs are absolutely pathognomonic.

Besides these definite clinical phenomena, we have still another aid to diagnosis in the radiograph. Good radiographs, particularly of the smaller joints of the extremities, show very characteristic pictures. Even before there is deformity, they show a characteristic rarefaction of the anterior ends of the bones. At this time, the rarefaction is confined to small circumscribed areas in the epiphyses, just beneath the bone cartilage. As the disease advances, the areas become gradually larger and larger, and in the smaller joints of the very severe cases the articular ends of the bones may finally become completely absorbed. The rarefaction of meta-

bolic osteo-arthritis, as shown by radiography, differs radically from that of infectious osteo-arthritis. In the latter, the rarefaction is extreme and diffuse, often extending to the shaft in the smaller bones at the very beginning; and when recovery is not complete there is nearly always bony outgrowth and at times complete bony ankylosis. The differentiation of the monarticular forms need not concern us here.

With such definite clinical signs, and the radiograph as an adjunct, it seems almost impossible to mistake metabolic osteo-arthritis, or to confuse or affiliate it with any other condition. It is with treatment of this condition, and this condition only, that the present communication is concerned.

In my paper on metabolic osteo-arthritis[1] it was shown that while metabolic osteo-arthritis is a definite and perfectly characteristic joint condition, both clinically and pathologically, the general conditions with which it is associated vary within wide limits. In some cases there are absolutely no definite general symptoms at all; in others, they are sometimes characteristic of one general anomaly, and sometimes of another. Moreover, it was shown that the perfectly typical symptom-complex appears in the course of diseases of an evidently dissimilar character—for instance, Basedow's disease, chronic pulmonary tuberculosis, congenital syphilis, etc. At first sight, such a condition of affairs would lead us to doubt the propriety of considering the joint diseases as a definite clinical entity; but it was further shown that these diseases and conditions, no matter how exceedingly they may differ otherwise, have at least one thing in common, i. e., a gradually (varying from an apparently insignificant to a very definite) deterioration of the general nutrition. And, as it was found that the peculiar form of degeneration which is characteristic of metabolic osteo-arthritis is exactly what, theoretically, we would expect such a nutritive anomaly to induce, it was concluded that metabolic osteo-arthritis is not due directly to the organic or constitutional conditions with which it is associated, but to the disturbance of the nutrition caused by them.

After reaching this conclusion some years ago, I decided that the only way to attack the problem of the treatment of this condition was either to find some means of removing the cause of the nutritional disturbance, or, as the cause of it in the majority of cases, being unknown, cannot be removed, to find some way of improving the general nutrition empirically.

In order to succeed in this, however, it was first necessary to discard all the previous methods of treatment in their entirety. If the joint condition is due to a deterioration of the nutrition, the usual diet and the internal administration of iodids and so-called antirheumatic remedies, by disturbing digestion, etc., are harmful. I, therefore, discarded all these procedures, all medicines, and permitted the patients who were still able to be about to use a nutritious mixed diet—as much to eat as they could digest, and even a moderate amount of alcohol to those accustomed to it.

I then, in order still further to improve the nutrition, experimented with various forms of special foods—olive oil, fatty foods, excess of starch, etc.—without apparently making any impression on the joint disease. The nutritious diet led to some improvement of the general condition, and the pain, when present, was somewhat relieved by rest, but the condition remained otherwise the same, or in many cases continued to progress.

About four years ago, led by Basch's experiments, demonstrating the influence of the removal of the thymus on the growth of the skeleton, I began the use of the dried thymus gland in metabolic osteo-arthritis. My first attempts in this direction were not encouraging. I found no immediate benefit from small doses, and had it not been for some conscientious patients who lived at a distance and continued to take the gland for a long time I should probably have discontinued its use. But thanks to these, I found that the continuous administration of thymus extract sooner or later led to definite and, in some cases, striking improvement. The pain and joint disability do not immediately disappear as soon as it is administered; on the contrary, the intense pain which is characteristic of some of these cases may persist for weeks, unabated, while thymus is being taken. It is only when the thymus is continued for months, despite the discouraging outlook, that the general nutrition begins to improve, and only with this improvement does the joint disability gradually disappear. That this improvement in the condition is due to the thymus I have been able to demonstrate in some of my patients, for in them the symptoms reappeared after the thymus was discontinued.

Nor must it be expected that thymus alone will bring about complete recovery. In the early stages, and in the mild slowly progressive cases, before muscular contraction and deformity have appeared, the disease will be arrested if all other treatment and joint irritation of other kinds are discontinued.

In the severer cases, the use of the diseased joints or the methods of treatment—massage or other mechanical measures—have usually already led to joint irritation when the patient comes under treatment. It must be remembered that the cardinal principle of putting all diseased joints at rest is equally important in metabolic osteo-arthritis as in other joint diseases. The doctrine advanced by many writers, namely, that rest is dangerous in so-called arthritis deformans because it leads to stiff joints, has done almost as much harm as has the disease itself. Indeed, I am convinced that a large proportion of the individuals suffering from this condition would never have been so completely disabled had they been left to themselves rather than submitted to the mechanical procedures ordinarily employed.

It is true, however, that as the disease advances slowly and is never nearly so active as in the inflammations, it is rarely necessary to immobilize the joints completely. Splinting is rarely necessary, but patients with active disease should not engage in manual work, and they should not be about when the disease is active in the lower extremities.

A short period of rest in conjunction with thymus and a nutritive diet will nearly always relieve the more active symptoms in the milder cases. The period of rest must, however, be prolonged in the severer ones. In the severer forms, particularly those of patients who have had the more active treatment, it requires months, or as long as a year, to bring the condition to quiescence.

When all signs of active disease have disappeared for some time, and no more joints have become involved, i. e., when the disease has become quiescent, and only then, more active treatment should begin. This more active treatment consists, at first, solely in the very gradual return to function. The patient is allowed on his feet, or to use his hands for a short time, and gradually, when there is no return of the signs of the active disease, the periods are increased. Those who have not had the disease in a severe form must, as a rule, be restrained from overtaxing themselves. On the other hand, in the severe cases, that is, in those of the patients

who have been bedridden for a long time, it is usually no easy task to bring about locomotion. The patients are nervous and timid, and only after much encouragement and the reiterated assurance that they can walk if they try, can they be induced to make the effort. Here tact in handling chronic invalids plays an important rôle. I am quite certain, and the results I have obtained bear me out, that even in those bedridden for a long time (several years) persistence and intelligent effort will ultimately lead to surprisingly good results.

Moreover, in the long-standing cases and in those of the very severe forms of the disease, there is always more or less muscular and tendon contraction, which, in the majority of the cases, remains after the disease has become quiescent. In the upper extremities, these contractures, with the exception of those affecting the fingers, which are difficult to remove or overcome, do not interfere with function to any great extent. But in the lower extremities, deformities, when they exist, must be corrected, if locomotion is to be perfectly reestablished. It is difficult to say exactly when this should be done, but if the patient is able to get around fairly well in spite of the deformity, I consider it better to wait until it is quite certain that the disease is quiescent before I proceed to corrective measures.

In the lower extremity, flexion and adduction of the hip, flexion of the knee and equinovalgus of the foot are the more common deformities. These are easily corrected. But it must be remembered that epiphyseal ends of the bones are soft and friable, and any attempt to correct the deformity by force will not only be unsuccessful, but will often increase instead of diminish the disability. I have, indeed, seen two cases in which attempts at forcible correction of flexion of the knee resulted in fracture above and below the knee-joint—an irreparable injury.

If under profound anesthesia the deformity resists gentle manipulation, tenotomy, which is harmless and in skilful hands is always successful, should be resorted to. Cutting the adductors is all that is necessary to correct the adduction and flexion of the hip in the majority of cases. Only in the very severe cases of long-standing disease will there be coxa vara, which prevents correction of the adduction deformity, and which can only be obviated by osteotomy.

Flexion at the knee is a very common deformity. In a few cases I have seen it disappear without operation. In a large number of cases, gentle manipulation, at either one or two sittings, will correct it. In the long-standing cases, tenotomy of the hamstrings will be necessary. In some cases the valgus deformity is difficult to correct without tenotomy of the heel-cord.

As soon as the joint irritation which, to some extent, always follows these operative procedures has subsided, the patient, with the limb held in the corrected position by plaster of Paris or other means, is encouraged to be about. Some require only a few days, and only a few require more than two weeks of rest in bed. The bandages are retained for about a month, with variations either way to suit the individual case. As soon as they are removed, active and passive motion is begun, very gently at first, and very gradually increased. There is some pain at first, and the extent to which the efforts to regain active and passive motion should be pushed is a matter of judgment. Any attempt to increase the arc of motion should immediately cease on the advent of joint irritation (effusion and severe pain). Rest and renewed attempts, repeated time and again, will finally result in practically complete return of both active and passive motion.

It must be apparent that the treatment here advocated not only takes considerable time but requires good judgment and the most careful attention to detail if it is to be successful. Patience, tact and a careful study of each individual case are absolutely necessary.

There is absolutely no necessity for restricting the diet. Patients in bed must of course receive more easily digested food than those about; but all that is required, in the vast majority of cases, is a nutritious mixed diet. I allow a small quantity of alcohol in suitable cases, and I have never yet seen harm come of it. Digestion is unimpaired in the majority of these patients, and in many of them the bowels move naturally. In the bedridden and sedentary patients there is, of course, a tendency to constipation, but this is usually relieved by mild laxatives. I have seen absolutely no indication for drastic eliminative treatment, and I have seen no case of true metabolic osteo-arthritis in which such measures were not harmful.

It must again be emphasized that the cause of metabolic osteo-arthritis is not uniform, and that the treatment must always be adapted to the general conditions which may exist. He who is the most careful observer and possessed of the rare talent for taking pains will be most successful.

That the treatment, when properly carried out, is successful, is proved by records of my own cases which here follow:

I have records of 186 cases which were under observation for three months or longer. I have not considered the hospital and dispensary patients, or the cases in which the results could not be verified. Of these 186, 103 cases were seen early, and though the diagnosis was made to my own satisfaction and the results excellent in the majority of them, for fear that there should be any question as to the large percentage of good results, I leave these out of consideration. We then have left eighty-three severe cases; all of the patients were in good circumstances and had been unsuccessfully treated by the usual methods, and all of them, under ordinary circumstances, were doomed to hopeless crippledom.

Of these eighty-three patients, eighteen were bedridden and were considered hopeless by the numerous medical men who had seen and treated them. Fourteen were more or less helpless, and were for the most part being wheeled in chairs, etc., and almost all were entirely incapacitated from walking. The remaining fifty-one showed decided deformation but could walk with more or less difficulty and pain.

Of the eighteen bedridden patients, eight are now walking without cane or crutch, and have no pain. Three are walking with a cane and are gradually discarding it; two are walking with crutches, and will gradually discard these when the deformities of the lower extremity are corrected; two, though still in bed, are beginning active and passive motion. Three died of an intercurrent or the underlying pathologic conditions. Of the fourteen wheel-chair patients: the results unknown in four; three are walking without assistance of any kind; two are walking with a cane; two, joints quiescent; three died.

Of the remaining fifty-one, practically all improved under treatment. As many of these patients live at a long distance from the city, they were very difficult to trace. Thus, eleven of these, all doing well while still under observation, could not be traced and the final result is therefore unknown. Of the remainder, thirty-

three patients, all of whom had decided signs of metabolic osteo-arthritis—deformation, pain, difficulty in walking and using the hands, with frequent periods of more or less complete disability—are and have been for a year or more practically well. Of these, fourteen are men who, for periods varying from six months to two years, were unable to attend business, but are now actively engaged at their former occupations. In only seven patients, three of whom did not properly carry out the treatment, has the treatment proved unsuccessful.

These results in a disease which was considered hopeless, speak for themselves. Moreover, it must be remembered that these results were obtained in patients who had been treated by the usual methods and continued to grow worse up to the time they came under observation.

I have always used a certain brand of thymus extract, giving from two to four tabloids of 5 grains each three times a day, either before or after meals. I suppose that put up by any reliable therapeutical house would be suitable; but that put up by beef-packers is practically inert.

How the thymus acts on the joints I do not pretend to know, nor do I believe it a specific. What is certain—and I think that my results prove this—is that when the thymus is conscientiously taken for a long time and the patient is otherwise judiciously handled, marked improvement, if not perfect cure, can always be expected.

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ABDOMINAL PAIN AND TENDERNESS, MUSCULAR RIGIDITY AND PSEUDOPERFORATIVE OR PSEUDOPERITONITIC SYMPTOMS IN THORACIC DISEASE—PNEUMONIA AND PERICARDITIS

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For a long time we have known that in thoracic affections such as pneumonia and pleurisy, pain may be reflected from the chest to the abdomen, thereby simulating abdominal disease. (Andral, 1836; Watson, 1871; Fagge and others.) In discussions of this not infrequent occurrence, attention has been directed chiefly to the pain alone, and it has been stated that such abdominal reference of pain of thoracic origin may be differentiated directly by the absence, in thoracic disease, of abdominal tenderness and other intrinsically abdominal findings.

The object of this paper is to establish clearly the existence of deep abdominal tenderness, muscular rigidity, collapse and the Hippocratic abdominal symptoms of rupture and peritonitis in purely thoracic affections.

CASE REPORTS

CASE 1.—Case of right lower lobe pneumonia, in which abdominal pain, tenderness, rigidity and retraction, in association with collapse, precisely simulated perforative peritonitis; in which operation disclosed no abdominal abnormality, and in which the appropriate findings of fibrinous pneumonia appeared.

History.—In June, 1907, a man aged 32, entered the hospital in partial collapse, having been taken ill some four hours earlier with severe pain in the lower abdomen. The temperature was 101 F., the pulse 106 and small, and the respirations 22. The skin was grayish, particularly about the mouth, and the expression indicated intense anxiety and suffering. The thoracic examination was negative. The abdomen was considerably retracted on both sides and above, as well as below. Palpation elicited marked tenderness, more on deep than on superficial pressure, particularly below the umbilicus. The least movement, as turning the patient on his side to test for free fluid and to explore the posterior chest, gravely accentuated the abdominal distress. The rectal and urinary examinations were negative and the white count was 17,000. In the entire absence of any previous abdominal or other history, the shock and abdominal picture was interpreted as perforation and peritonitis and the only speculation concerned the origin of the perforation. The examining surgeons and physicians coincided in the indication for immediate laparotomy, which was performed by Dr. E. Wyllis Andrews. The peritoneum, appendix, stomach, bowel and gall-bladder were explored carefully, but with completely negative results. In just twenty-four hours after admission the fever rose to 103 F. and the breathing to 26 to 28; the pulse remained stationary, a catching but unproductive cough appeared and crepitant râles were determined over the right lower lobe, and in twelve hours more, dulness and bronchial breathing. In five days from the onset, a typical crisis ensued.

CASE 2.—Case of pericarditis with effusion, pain and tenderness over the entire abdomen, muscular defense, abdominal retraction and later left upper-lobe pneumonia.

History.—In June, 1907, a boy, aged 14, of robust appearance and high color entered the hospital, complaining of languor, headache and anorexia. His previous history was negative, save for measles, whooping-cough and varicella, early in life. Abdominal distress appeared after two days of low fever (99.8 to 101.2 F.), a pulse-rate of 100 to 115 and normal breathing rate (18 to 20). The abdomen was equally sensitive to superficial and deep palpation, its walls were generally retracted, it did not participate in the respiratory movements and the patient lay quiet because movement increased his abdominal pain, as by the efforts of urination, defecation, etc.

The tongue, chest, glands, urine, etc., were negative and the white count showed 15,400 leukocytes. It seemed perfectly clear that there was peritonitis from some cause. This patient immediately followed the one first described; four other patients admitted to the surgical service and operated on under the erroneous diagnosis of peritonitis or appendicitis developed pneumonia and these experiences excited an unusual reserve, both among the surgical and medical staffs. Another day later a typical to-and-fro pericarditic friction was noted and effusion gradually gave the typical pyriform precordial dulness, buried the heart tones and masked the apical and cardiac pulsations. As the effusion appeared, all abdominal symptoms remitted. The fever rose to 101 to 103 F., the pulse to 120 and the breathing to 30 to 36. One week after admission crepitant râles, dulness, bronchial breathing, increased vocal fremitus and bronchophony developed over the left upper apex, chiefly behind, which findings seemed pneumonic rather than from pressure by the pericardial exudate, although the latter interpretation was considered. In ten days after admission, convalescence was established by a slow crisis.

SYMPTOMS

To me the particular interest of these cases consists in the initial severe and diffuse abdominal symptoms. This pseudoperitonitic or pseudoperforative symptom-complex is remarkable in two ways: (1) that no thoracic symptoms of any kind coexisted with the symptoms of onset; and (2) that the abdominal symptoms in their completeness left no doubt, in the opinion of all observers, as to the existence of peritonitis or perforation.

Systematic treatises on pneumonia and pleurisy, particularly in pediatrics, give due mention of pain referred to the abdomen, thereby simulating acute abdominal inflammation, and many special articles have considered these conditions. It is usually and properly stated that

differentiation is possible, by noting that tenderness is absent over the subjectively painful abdominal area and that thoracic examination or respiratory symptoms give some clue to the nature of the affection. Indeed, the clinician customarily, in instances of abdominal pain, halts till he can exclude the triad of confusions—tabetic crises, respiratory infections and vertebral disease.

The *pain* is variously depicted. Some, as Henoch, speak of it as superficial only, yet Raillet describes the pain as deep and over McBurney's point. Dieulafoy has found that pain in appendicitis does not begin with full intensity, as it does in perforation, e. g., of a gastric ulcer, but this dictum certainly does not always hold. Melchior[1] places special differential reliance on the contrast between the slight local findings and the severe general symptoms, as the sharp pain, the high fever, the involvement of the sensorium, involuntary evacuations, etc.; he cites the analogous early appendix symptoms of typhoid as an example. It is held that pain and other abdominal symptoms of this pseudoperitonitic group cease suddenly and characteristically, which is considered differential from appendicitis. Against this statement, a strong protest must be made, inasmuch as every clinician has learned to dread the sudden treacherous improvement witnessed in appendicitis, when gangrene or rupture relieves the tension of the part involved.

Tenderness and *rigidity* are frequently described. It may be local or general. Richardson[2] speaks of rigidity and universal tenderness. Arron finds that the muscular defense is less than in perityphlitis. Mignon found generalized abdominal rigidity, and Barnard's[3] patient exhibited almost spasmodically hard abdominal muscles. Melchior's patient exhibited tension of the abdominal walls. In my experience moderate abdominal tension is common in pneumonia.

Immobility in bed is also described by Mirande. In Griffith's[4] and Richardson's[2] reports the knees were drawn up.

Collapse is seldom described. In Martens'[5] three pneumonias, the symptoms at first resembled perforation, but operation was suspended till the pneumonic signs cleared the diagnosis. In Barnard's[6] report, the patient collapsed on the street; epigastric rigidity, pain and tenderness, the rapid thready pulse, and a history of gastric ulcer led to operation which revealed neither ulcer nor peritonitis; the autopsy disclosed bilateral lower-lobe pneumonia. Barnard comments on the relaxation of the abdominal walls between respirations, which was lacking in our cases.

The general symptoms generally in some way suggest a general infection or respiratory localization. The significance of fever, higher than is usual in appendicitis, is emphasized by Griffith, Barnard, Richardson and Sprengel. The gray color (*teint plombé*) of the skin in appendicitis is important, in Kirmisson's opinion. Anxiety is especially remarked in one of Griffith's patients and in my first one. Headache, severe cerebral toxemia, chills, cough, rate and character of the breathing are important. Obstinate constipation is not uncommon, and initial vomiting, especially in children, or even renewed emesis, may be confusing.

Confusions arise not merely in pleurisy, empyema and lower-lobe pneumonias, but also in bronchopneumonia, upper-lobe hepatization (Bennecke[7] and Herrick[8]) and, as in my second case, pericarditis with effusion.

In conclusion, it is not my object to canvass the entire literature of this subject or to claim that the clinical picture described is wholly unique, since doubtless many have experienced the same situation. It is proper, however, to insist on the following points:

1. Pneumonia, pleurisy and pericarditis, at their very onset, may present absolutely no symptoms other than the abdominal findings.

2. These phenomena of invasion may completely resemble appendicitis, peritonitis of other etiology, or even the collapse of perforation.

3. Diagnostic errors and unnecessary operations may be unavoidable. Immediate operation is imperative and the small percentage of error is negligible in comparison with the benefits of early operation in genuine indications (particularly as 80 per cent. of patients operated on under a mistaken diagnosis, recover).

4. The tenderness does not always remit with deep, flat pressure, and that relaxation of the abdominal parietes, between respirations, is not invariable.

5. The general symptoms do not invariably overshadow the local, the latter at times being the more salient.[9]

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THE HISTORICAL COLLECTION OF MEDICAL CLASSICS IN THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE *

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In any library of size the problem of what to do with its rarer and costlier books is usually solved by stowing them either in or out of sight, in show-cases, drawers, cupboards and coffers, and in the Surgeon-General's Library at Washington this policy has been in force for some years so far as its incunabula, elephantines, erotica and curiosa are concerned.

The recent plan of the librarian, Col. Walter D. McCaw, to put the more important medical classics under glass, for purposes of safe keeping, has resulted in a collection of unique interest and value, for the nation's medical library is singularly rich in these literary treasures, the accumulation of which is mainly due to the untiring zeal and vigilance of Dr. Billings and Dr. Fletcher in the past. The fact that nearly every volume in this exhibit is a first edition should interest the medical bibliophile, and at the same time an arrangement of the classics in strictly chronological order affords a bird's eye view of the textual history of medicine to the student and casual visitor, while giving the specialist chapter and verse, as it were, by enabling him to put his finger on the particular *locus classicus* in each case. Then, many of these old medical classics are fine specimens of typography in themselves, bearing on title-page or colophon the stately names of the great printers of the past.

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In preparing this chronological exhibit, which will, when completed, be provided with a suitable *catalogue raisonné*, it was thought best that the historical collection proper should begin with Greek medicine, for the reason that, apart from the works of the Jewish and Arabian physicians in the Middle Ages, Oriental medicine has mainly an anthropologic or esoteric interest. The leading monuments of pre-Hippocratic medicine, including the Ebers Papyrus, the Code Hamurabi, the Charaka Samhita and the Suruta, are, of course, on exhibition in the library hall, and no one will challenge the importance of these documents. From the hieratic writings of the papyri we get a clear idea of the priest-like dignity of the ancient physician's calling, the various diseases and the extensive materia medica known to the ancient Egyptians. From the Code Hamurabi we sense the importance attached to physicians' fees even 2,200 years before Christ. From the Suruta, the great storehouse of Aryan surgery, we learn that to their lofty Brahminical code of ethics the ancient Hindu physicians united a highly specialized knowledge of operative procedure and of surgical instrumentation that was not improved on by the Greeks and Romans who came after them. Aryan skill in surgery has been an unbroken tradition, even through the Dark Ages, when surgery was most under a ban. But with this single exception and in the face of the researches of savants like Ebers, Joachim, von Oefele, Jolly, Preuss and Bartels, it is doubtful whether the records of Egyptian, Indian, Chinese, Mesopotamian and Babylonian medicine can be ranked with the classic texts. Cuneiform, hieroglyphic, runic and palm-leaf inscriptions all point to one fact, that ancient medicine and the medicine of primitive peoples, whether Accadian or Scandinavian, Slavic or Celtic, Roman or Polynesian, has been the same throughout space and time—in each case an affair of charms and spells, plant lore and psychotherapy, to stave off the effect of supernatural agencies. It may interest us vastly to know that the āaā disease of the Egyptian papyri was identical with hookworm infection; that the Chinese had a pulse-lore and practiced acupuncture; that Finsen's red-light treatment of small-pox was known to ancient Japanese physicians as it was to John of Gaddesden; that an early Persian manuscript pictures a permanent gastric fistula like Alexis St. Martin's; that Machaon and Podalirius were the first naval surgeons, and so forth. Yet these are after all only waifs and estrays of information, and as information is not knowledge, so disconnected facts do not make a scientific record. Such a record implies not only the isolation and collation of facts, but their interpretation and the induction of the general laws behind them, and, in this sense, pre-Hippocratic medicine has not the slightest claim to be called scientific. Few will dissent, therefore, from the wise (if somewhat Olympian) view of Goethe that Eastern antiquities have only a casual interest: "Chinesische, indische, ägyptische Alterthümer sind immer nur Curiositäten."

I. THE GREEK AND GRÆCO-ROMAN PERIOD (460 B. C.-476 A. D.)

European medicine began in the age of Pericles and its scientific advancement centers in the figure of Hippocrates (460 to 370 B. C.), who crystallized the loose knowledge of the Coan and Cnidian schools into systematic science, dissociated medicine from theurgy and philosophy, and developed the art of grouping and coordinating symptoms so that the clinical picture of a disease began to emerge of itself as a definite entity.

The Surgeon-General's Library possesses an unusually rich collection of some 900 volumes relating to the Hippocratic Canon, including fifty-two different editions of the *Opera Omnia*, 441 separate treatises, and 408 commentaries and critical compendiums. Of these, the following are on exhibition:

1. The folio Latin text of the *Opera Omnia*, translated and edited by Fabius Calvus, the friend and patron of Raphael, and published at Rome under the auspices of Pope Clement VII in 1525. This was the first complete edition of Hippocrates to be printed.

2. The folio *editio princeps* of the Greek text, published the following year (1526) by Aldus at Venice.

3. The Basel *Opera Omnia* edited by Janus Cornarius and printed by Froben (1538), highly prized on account of its textual and critical accuracy.

4. The Greek text and Latin translation of Hieronymus Mercurialis, printed by the house of Giunta at Venice in 1588.

5. The Frankfort edition of 1595, containing the valuable translation and commentary of Anutius Foesius, the most learned, industrious and able of the Hippocratic commentators before the time of Littré.

6. The first Latin text of the aphorisms, edited by François Rabelais (Lyons, 1532).

7. The tiny Leyden editions of the aphorisms (1607 and 1628), the first a Plantin imprint, the second a vest-pocket Elzevir.

The greatest scientific name after Hippocrates is that of "the master of those who know," the Asclepiad Aristotle (384 to 322 B. C.), who gave to medicine the beginnings of zoölogy, comparative anatomy and embryology and the use of formal logic as an instrument of precision. A worthy successor of the Stagirite was his friend and pupil Theophrastus of Eresos (370 to 286 B. C.), also a physician and called the "protobotanist," because he did for the vegetable kingdom what Hippocrates had previously done for surgery and clinical medicine, by collating the loose plant-lore of the woodmen and "rhizotomi" into a systematic treatise. The "De Historia Plantarum" of Theophrastus, the foundation-stone of European botany, is represented by the Aldine Greek text of 1497 and the Greek and Latin text of Stapel (Amsterdam, 1644).

The colonization of Greek medicine in Egypt led to brilliant developments in anatomy and surgery, but our knowledge of the two great Alexandrian anatomists, Herophilus and Erasistratus, the originators of dissecting, is not based on any textual record of their writings, but was pieced together by the scholarship of Marx and Hieronymus. The principal relics of the empirical poison-lore of the second century B. C. are the two hexameter poems of Nikander on poisonous animals ("Theriaca") and plants ("Alexipharmaca") which have been preserved in the two Aldines of 1499 and 1523, and the French versification of these poems by Jacques Grevin (Plantin imprint, Antwerp, 1568).

After the destruction of Corinth (146 B. C.), Greek medicine may be said to have migrated to Rome. Before the Greek invasion, the Romans, as the younger Pliny tells us, "got on for 600 years without doctors," relying mainly on medicinal herbs and domestic simples, superstitious rites and religious observances. The proud Roman citizen, who had a household god for nearly every physiologic function, looked askance on the itinerant Greek physician, despising him as a mercenary for accepting compensation for his services and otherwise distrusting him as a possible poisoner or assassin. Apart from the writings of a private litterateur like Celsus, the principal Roman contribution to medicine was the splendid sanitary engineering of the architect

Vitruvius. Greek medicine was finally established on a respectable footing in Rome through the personality, tact and superior ability of Asclepiades of Bithyna (124 B. C.) whose fragments are presented in Gumpert's Greek text (Weimar, 1794).

Although Roman medicine was almost entirely in Greek hands, the best account of it that we have was the work of Aurelius Cornelius Celsus, a private gentleman who lived during the reign of Augustus Cæsar, and wrote encyclopedic treatises on medicine and other subjects for the benefit of the Admirable Crichtons of his day. To moderns, Celsus is the leading authority on Græco-Roman medicine and Alexandrian surgery. Under the Romans military and gladiatorial surgery attained a degree of perfection which the general art was not to reach again before the time of Ambroise Paré. Celsus is also the standard authority for the weights and measures used by the Romans, and the *Proœmium* of his "De Re Medica" contains the first history of medicine. Of the 105 different editions of Celsus, the Surgeon-General's Library possesses sixty-five. The show-case exhibit includes the Florentine *editio princeps* of 1478, the Milan imprint of 1481, the rare Giunta of 1524, the Aldine of 1525 and the handsome Elzevir of 1657.

Pedacius Dioscorides, a Cicilian Greek, was an army surgeon during the reign of Nero (*circa* 64 A.D.) and utilized his opportunities of travel in the study of plants. His work is the authoritative source on the materia medica of antiquity, of which he describes about 600 plants and plant-principles, over a hundred more than Theophrastus. Up to the beginning of the seventeenth century, the best books on medical botany were still simply commentaries on the treatise of Dioscorides, which is preserved as the Aldine of 1499 (Greek text), the Stephanus of 1516 (Latin text), the rare bilingual text of Cologne, 1529, and the Italian commentary of Mattioli (Venice, 1544), also excessively rare.

Aretæus the Cappadocian, who also lived in the reign of Nero, comes nearer than any other Greek to the spirit and method of Hippocrates and is on this account more readily appreciated by modern men. As a clinician, he ranks next to the Father of Medicine for the graphic accuracy and fidelity of his pictures of disease, of which he has given the classical, first-hand accounts of pneumonia, asthma, diabetes, leprosy, diphtheria (ulcera Syriaca) and the first clear differentiation between cerebral and spinal paralysis. His work is preserved in the faulty Greek text of 1554 and in Wigan's valued Clarendon Press edition (Oxford, 1723).

Another great eclectic was Rufus of Ephesus, who lived in the reign of Trajan (98 to 117 A. D.), and whose literary remains and fragments have been preserved in the Paris text of 1554.

Soranus of Ephesus, a methodist of the second century, A. D., is our leading authority on the gynecology, obstetrics and pediatrics of antiquity. His treatise on midwifery and diseases of women, represented by Dietz's Greek text (Königsberg, 1838), was the original of such famous books a Röslin's "Rosegarten" (1513) and Raynalde's "Byrthe of Mankynde" (1545), and most of the supposed innovations in these books, such as the obstetric chair or podalic version, have been traced back to Soranus. After Soranus, there were no real additions to obstetrics before the time of Paré, some 1,500 years later.

The ancient period closes with the name of the greatest Greek physician after Hippocrates—Galen (131 to 201), the founder of experimental medicine. Galen's youth and old age were those of a peripatetic. His life was one long *Wanderjahr*. This roving disposition undoubtedly did much to develop that cocksure attitude of mind which made his writings the fountain-head of ready-made theory, or what the Germans call "polypragmatism." He had an answer ready for every problem, a reason to assign for every phenomenon. How the followers of Galen imposed his authority on European medicine for ages is one of the commonplaces of medical history. Up to the time of Vesalius, European medicine was one vast *argumentum ad hominem* in which everything relating to disease and its treatment was referred back to Galen as a final authority, from whom there could be no appeal. After his death European medicine remained at a dead level for nearly fourteen centuries. Galen's true greatness lies in the simple fact that he gave to medicine that method of putting questions to Nature and arranging matters so that Nature may answer them which we call experiment. His experiments on the physiology of the nervous and respiratory systems are truly classical and the only thing of the kind before Harvey. Of Galen's *Opera Omnia*, the Surgeon-General's Library possesses the ten different Giunta editions, selected volumes of which are on exhibition, together with the Aldine of 1526, Linacre's translations of the "De Sanitate Tuenda" (Paris, 1517), and "De Temperamentis" (1527); and the Simon Colinaeus imprint of the "De Usu Partium" (Paris, 1528), the prototype of all subsequent "Bridgewater treatises."

II. THE BYZANTINE PERIOD (476 TO 732 A. D.)

The solitary thing the Eastern Empire did for European medicine was to preserve something of the language, culture and literary texts of Greece. Although the Byzantine power lasted over a thousand years (395 to 1453 A. D.), medical history is concerned only with the names of four remarkable men who were prominent physicians in the first three centuries of its existence. Of these the courtier Oribasius (326 to 403 A. D.), a friend and physician-in-ordinary to Julian the Apostate and sometime quæstor of Constantinople, is chiefly remarkable as a torch-bearer of knowledge rather than as an original writer, but his compilations are highly valued by scholars in that he always gives his authorities and, so far as is known, quotes them exactly. Medicine is indebted to him for a remarkable anthology of the works of his predecessors, many of whom (the great surgeon Antyllus, for instance) might otherwise have been lost to posterity. A representative work of Oribasius is the epitome of medicine which he made for the use of his son ("Synopseos ad Eusthasium Filium"), of which a rare large paper Aldine (Venice, 1554) is exhibited; but the student of medical history will read Oribasius to best advantage in Daremberg's splendid six-volume edition, with the French translation (Paris, 1851-1876).

Aetius of Amida, who lived in the sixth century A. D., was also a royal physician and *comes obsequii* at the court of Byzantium. His work, represented in the Aldine of 1534, is principally remarkable for the introduction of such far-Eastern drugs as cloves and camphor into the pharmacopeia.

Alexander of Tralles (525-605), who is regarded by many historians as the most remarkable of the Byzantine compilers on account of the originality of his therapeutic procedure, is represented by the Lyons *editio princeps* of his "Practica" (1504).

Paul of Ægina (625-690), the last of the Greek eclectics and compilers, is represented by the Aldine Greek text of 1528. We may judge how low medicine had sunk at this time by his apologetic statements in regard to any lack of originality on his part. He frankly

admits that the ancients have said all that could be said about medicine and that he is only a humble scribe. Paul was, however, a very capable surgeon and the seventh book of his "Epitome" was the standard work on the subject up to the time of Albucasis.

III. THE MOHAMMEDAN AND JEWISH PERIODS (732-1096 A. D.)

By the swords of Mohammed and his emirs the wild outlaw clans of the Asian and African deserts were converted into nations capable of acting as military and social units, but it was not until long after his death when the mighty empire which he founded was subdivided into caliphates, that the sciences and arts were permitted to develop. We call the medical authors of the Mohammedan period "Arabic" on account of the language in which they wrote, but in reality most of them were Persian- or Spanish-born, and many of them were Jewish. The leading physicians of the Eastern (or Bagdad) Caliphate were the three Persians, Rhazes, Haly Abbas and Avicenna.

Rhazes (860-932), a great clinician, ranks with Hippocrates, Aretæus and Sydenham as one of the original portrayers of disease. His descriptions of small-pox and measles is the first authentic account in literature, a classic text. It is preserved in the original Arabic, with parallel Latin translation, in Channing's edition (London, 1766). Rhazes' great encyclopedia, the "El Hawi" or "Continens," which Haller preferred to any other Arabic treatise, is shown in the Latin translation of Feragus (Brescia, 1486).

Haly ben Abbas, a Persian mage, who died in 994, was the author of the "Almaleki" or "Liber Regius," a text-book which was the canonical treatise on medicine for a hundred years, when it was superseded by the "Canon" of Avicenna. It has never been printed in the original Arabic, but is preserved in the Latin translations of 1492 and 1523.

Avicenna (980-1036), called "the Prince of Physicians," a convivial Omarian spirit, eminently successful in practice as court physician and vizier to different caliphs, was one who trod the primrose path at ease and died in the prime of life from the effect of its pleasures. The "Canon" of Avicenna, a huge, unwieldy storehouse of knowledge, which Haller styled a *methodica inanitas*, but which was none the less a great medical text in its day, is preserved in the original Arabic text (Rome, 1593) and in the Latin texts of 1479, 1483 and 1486. The Giunta edition of 1608 contains some striking plates which show that Avicenna knew and practiced the method of treating spinal deformities by forcible reduction which was reintroduced by Calot in 1896. The collection of pharmacologic treatises by the eponymous or pseudonymous Mesue junior is of interest as one of the earliest known incunabula (Venice, 1471).

The leading medical authors of the Western or Cordovan Caliphate were the surgeon Albucasis and the Jewish physicians Avenzoar and Moses Maimonides. Albucasis, a native of Cordova, who died there in 1106, was the author of a great medico-chirurgical treatise called the "Altasrif" (or "Collection"), of which the surgical part is exhibited in Channing's Arabic text (Oxford, Clarendon Press, 1778). It is remarkable as containing the first pictorial representations of surgical instruments and was the leading text-book on surgery in the Middle Ages up to the time of Saliceto. The greatest of the Jewish physicians during the Arabic period was the Cordovan Avenzoar, who died in 1161. He was one of the few men of his time who had courage enough to tilt against Galenism and by his description of the itch-mite (*Acarus scabia*) he may be accounted the first parasitologist. His "Teisir," or "Rectification of Health" is preserved in the Latin translation of 1490. The Rabbi Moses ben Maimon, called Moses Maimonides (1139-1208), was court-physician to Saladin, and his "Tractatus de Regimine Sanitatis" was written for that Sultan's personal use. The copy on exhibition, the Florentine imprint of 1478, is one of the rarest of books.

IV. THE MEDIEVAL PERIOD (1096-1438)

Medieval medicine began in the School of Salernum, which was founded by the Benedictine Monks in the ninth century, and survives in its principal document, the "Regimen Sanitatis," written in hexameter verse (1840), and in the "Antidotarium" of Nicolaus Præpositus, the first formulary and one of the first medical books to be printed (Venice, 1741). The principal outcome of the School of Salernum was the work of two surgeons, Roger and Roland of Parma, who, as Allbutt says, "stand like twin brethren in the dawn of modern medicine, bearing the very names of romance." Roger's "Practica," written in 1180 and reedited by Roland, is preserved in the library collection as a rare and interesting manuscript of the fourteenth century, together with Daremberg's classical edition of the "Glossulæ Quatri Magistrorum," vilely printed, "on gray paper with blunt type" (Naples, 1854). Roger, Roland and the Four Masters were succeeded by Hugh of Lucca, who left no record of his work behind him, and his disciple Teodorico Borgognini (1205-96), whose treatise is preserved in the surgical anthology of Articella (*editio princeps*, Venice, 1490). Hugh and Theodoric contradicted the pseudo-Galenist dogma of "coction" or "laudable pus" and stand out in their day as pioneers of a rational asepsis. The ablest Italian surgeon of the thirteenth century was Guglielmo Salicetti, called Saliceto, a man well educated in hospital and on the battlefield, as well as in respect of university training. His "Cyrurgia," exhibited in the *editio princeps* of 1476, stands out as a great landmark or seamark in the history of the craft, to be followed by the "Chirurgia magna" of his pupil Lanfranchi of Milan (*editio princeps*, Venice, 1490). Lanfranc, also a university man, was driven by banishment to Paris, where he became the founder of French surgery and made a resolute and valiant stand against the medieval schism between surgery and medicine. The effect of the work of these great surgeons, coincident with the development of the medieval universities—Bologna (1110), Montpellier (1137), Paris (1176), Oxford (1200), Padua (1222)—and the brilliant false dawn of culture and liberalism in the thirteenth century, did much to further the growth of surgical talent in France, England and Flanders. The "Cirurgia" of Pietro Argelata (Venice, 1480), the reproductions of the text of Henri de Mondeville by Pagel (Berlin, 1892) and Nicaise (Paris, 1893), the "Cirogia" of Guy de Chauliac, written in the *lingua franca* (Venice, 1480), a rare and curiously illustrated fourteenth century manuscript of John of Arderne, and the facsimile of the "Chirurgie" of Jean Yperman (1295-1351) by Carolus (Ghent, 1854), are the principal landmarks of the period.

Hand in hand with the medieval development of surgery, there necessarily went some effort to improve the status of human anatomy. Dissecting, at first rigorously proscribed by law and sentiment, became more and more a matter of course, following the decree of Emperor Frederick II in 1240. Payne had divided medieval anatomic teaching into three periods: First, the Salernitan

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(from the ninth to the twelfth century), in which instruction was based on the dissection of animals as set forth in the "Anatomia Porci" of Copho, one of the Jewish instructors at Salerno. Second, the Arabist period (thirteenth century), in which such dissections were superseded by books and lectures. The leading authorities of this time were Richard, canon of Wendover, called Richardus Anglicus (1252), whose work is preserved in Töply's text (Vienna, 1902); and Henri de Mondeville, who, long before Ambroise Paré, prefixed an anatomic treatise to his surgery, and who improved on Wendover's teaching by the use of pictures, diagrams and a model of the skeleton. The interest of the third period centers in the revival of human dissecting by Mondino de' Luzzi, called Mundinus (1250-1325), whose "Anathomia" is exhibited in the Leipsic edition of Dr. Melerstat (1493). This little horn-book of Mundinus, although full of Galenical errors in regard to the structure of the human frame, was yet the sole text-book on anatomy for over a hundred years.

Internal medicine during the Middle Ages was essentially scholastic and monastic; that is, its votaries were either monks or schoolmen of the type of the great intellectual leaders of the thirteenth century—Roger Bacon, Thomas Aquinas, Duns Scotus and Albertus Magnus. The medieval logicians did good service in sharpening men's minds and teaching them how to use dialectics as an instrument or weapon, but science itself could not advance so long as the pitfalls of syllogism were preferred to inductive demonstration of fact. The medieval writers on practice of medicine are commonly described as Arabists on account of their unswerving fidelity to Galenical dogma as transmuted through Mohammedan sources. Characteristic Arabist texts are the "Liber Aggregationis" of Jacopo de Dondis (1298-1358), the earliest known of medical incunabula, printed at Strasburg, *circa* 1470 by Adolf Rusch (the "R" printer); the "Conciliator Differentiarum" (Venice, 1476) of the heretic Peter of Abano (1250-1315), the "Breviary of Practice" (Pavia, 1488) of Arnold of Villanova (1235-1312), and the "Lilium Medicinæ" of Bernard de Gordon (Venice, 1496), also exhibited in a rare manuscript of 1349. Nowise classical, these works are typical of the Middle Ages in scholastic subtlety and rigid adherence to dogma. Two books of this group are of special interest to English-speaking people—the "Compendium Medicinæ" (London, 1510) of Gilbertus Anglicus, the leading spirit of Anglo-Norman medicine, and the "Rosa Anglica" (Pavia, 1492) of John of Gaddesden, a prebendary of St. Paul's, whom some think the original of Chaucer's Doctor of Physic. The former is remarkable for its account of leprosy and as containing the first reference to the contagiousness of small-pox. The latter has a remarkable reference to the red-light or Finsen treatment of the same disease, but is otherwise a farrago of Arabist quackeries and countryside superstitions.

V. THE PERIOD OF THE RENAISSANCE. THE REVIVAL OF LEARNING AND THE REFORMATION (1438-1600)

In the transition of civilized mankind from medieval to modern conditions many forces were operative, but undoubtedly the most potent were the invention of gunpowder, which gave the *coup de grâce* to feudalism, and the discovery of printing, the greatest agent in uplifting mankind by self-education. The effect of the revival of Greek culture by the Byzantine scholars who poured into the Italian peninsula after the fall of Constantinople (1453) was to substitute the spontaneous receptive attitude of Plato and Hippocrates for the dialectics and logic-chopping of Aristotle and the Galenists. Prime movers in this change for medicine were the great printers of the Renaissance and the so-called medical humanists. The printing houses of the Aldi and Giunti in Venice, Stephanus and Colinæus in Paris, Herbst (Oporinus) and Froben in Basle, Wynkyn de Worde and Wyer in London, Plantin at Antwerp, Elzevir in Leyden, vied with each other in the issue of stately folios and beautiful texts, while such editors and translators as Niccolo Leoniceno at Ferrara; Rabelais at Meudon, Gunther of Andernach at Strasburg, Hagenbut (Cornarus) at Marburg, and Anutius Foesius at Metz did for Hippocrates what Linacre and Caius in England did for Galen. Linacre's translations of Galen in particular made it clear to physicians of the day that for centuries the profession had relied on garbled and second-hand versions of their favorite author.

Some time after the invention of printing, Germany entered the field of medicine with a remarkable array of semi-popular treatises, most of them written, contrary to custom, in the vernacular, the language of the people. The earliest of the German incunabula on exhibition is the "Regiment der jungen Kinder" of Bartholomæus Metlinger[1] (Augsburg, 1473), a little book on infant hygiene which would be the first Renaissance contribution to pediatrics were it not preceded by Paolo Bagellardo's "De Ægritudinibus Infantum" (Padua, 1472). The "Artzneibuch" of Ortollf of Bavaria (Nuremburg, 1477) was an important German text of popular medicine in its day, and followed, about 1500, by Ortollf's quaint little "Frauenbuchlein," or popular hand-book for lying-in women. A few years later (in 1513), there appeared at Worms the "Rosegarten" of Eucharius Röslin, a work which bears the same relation to Renaissance obstetrics that the "Anathomia" of Mundinus did to medieval anatomy. Although mainly a compilation from Soranus of Ephesus as filtered through the manuscript codices of Moschion, it was still the only text-book in the field after a lapse of fourteen centuries. Three first editions were issued simultaneously, all extremely interesting for their quaint cuts (already faintly outlined in the Moschion codices), for the *réchauffé* of podalic version as originally described by Soranus and for the fact that Röslin's text was miserably plagiarized by Walther Reiff[2] in 1545, and also translated and reissued by William Raynalde as "The Byrthe of Mankynde" (London 1545). The ordinance issued by the city of Ratisbon in 1555 for the direction of midwives ("Regensburger Hebammenbuch") has been proved by Mr. Felix Neumann[3] to be the earliest public document of this kind in the vernacular.

The foundations of medical jurisprudence were laid in its earliest European text, the "Caroline Criminal Constitutions" (*Peinliche Gerichtsordnung*) issued by Emperor Charles V in 1533 and exhibited in Schmid's Middle-High German text (1835). Interesting relics of the great medieval pandemics of syphilis and bubonic plague are preserved in the curious tracts of Widman (1497), Conrad Schelling (1502), Grünpeck (1503), Ulrich von Hütten (1514) and Schmaus (1518). Early German botany survives in the wood-engravings of the "Hortus Sanitatis" (1491) and the herb-books of Brunfels (1530) and Bock or "Tragus" (1539); early German surgery begins with Haeser's reproduction of the "Bündth-Ertzeney" (1460) of Heinrich von Pfols-

1. An earlier German incunabulum is the Hochenburg "Regimen Sanitatis," printed at Augsburg in 1472. (See Sudhoff's "Deutsche Medizinische Inkunabeln," Leipsic, 1908, p. 8.

2. The plagiarist Reiff should not be confused with the Swiss obstetrician Jacob Rueff (1500-58), author of the "Trostbüchle" (Zürich, 1554), a midwifery of sterling character.

3. Arch. f. Gesch. d. Med., Leipsic, 1911, v.

peundt, which contains the first reference to gunshot-wounds as "powder-burns"; the "Buch der Cirurgia" of Hieronymus Brunschwig (Strasburg, 1497) and the Fieldbook of Military Surgery by Hans von Gersdorff (Strasburg, 1517), both containing some of the most instructive pictures of early surgical procedure in existence, the latter including unique plates of diseases like leprosy and St. Anthony's fire. The same thing is true of the Ὀφθαλμωδουλεία, *das ist, Augendienst* of the court oculist Georg Bartisch (Dresden, 1583), the striking illustrations of which give us a complete purview of Renaissance eye surgery. The earliest work in this field was the "De Oculis, Eorumque Egritudinibus et Curis" of Benvenuto Grassi (Ferrara, 1475), and in the vernacular group may be mentioned the little eye book of Walter Bailey (London, 1586) and the "Traité des Maladies de l'Œil" by Jacques Guillemeau (Paris, 1585).

The effect of these vernacular writings was to get men's minds away from scholasticism and turn them toward realities. This Renaissance tendency reached its highest development in the earliest of the medical leaders of the sixteenth century, Paracelsus, Vesalius and Paré—three strong men of aggressive temperament, who by shouldering past other men, literally "blazed the way," not only for the general advance of medicine, but for keen and liberal thinking in all its branches.

Aureolus Paracelsus (1493-1541), the founder of chemical pharmacology and therapeutics, was neither the refined, supersubtle mystic of Browning's poem, nor yet the roystering, lying, tippling blackguard and quack-salver of tradition. His influence was far-reaching and his real services were great. Far in advance of his time, he discarded Galenism and taught men to accept chemistry as a science; he attacked witchcraft and the strolling mountebanks who butchered the body in lieu of surgical procedure, and he did away with the silly uromancy and uroscopy; almost the only asepsist between Mondeville and Lister, he taught that Nature (the "natural balsam") and not officious meddling heals wounds; he introduced mineral baths and was the first to analyze them; he made mercury, opium, arsenic, antimony and lead a part of the pharmacopeia, and discovered zinc; his "doctrine of signatures" survives in the essence of homeopathy; and in comparing the action of the "arcana" or intrinsic principles of drugs to a spark he grasped the idea of catalytic action. As a theorist, he believed in the descent of living organisms from the *Urschleim* or primordial ooze, and some credit him with anticipating Darwin in his observation that the strong war down and prey on the weak—a fact, unfortunately, within the range of any beggar or footman. But none of these things can outweigh the influence which Paracelsus exerted on his time through his personality. In an age when heresy often meant death, he wasted no time in breaking butterflies on wheels, but drove full tilt at many a superstition, risking his neck with the recklessness of a border reiver. The importance attached to his name may be gathered from the line in Shakespeare's comedy which brackets it with that of Galen[4]. Paracelsus was great in respect of his own time. He does not seem particularly great in relation to our time.

The works of Paracelsus on exhibition are his manual introducing the use of mercurials in syphilis (Frankfurt, 1553), the treatise "De Gradibus" (Basel, 1568), which contains most of his innovations in chemical therapeutics, and his monographs on miners' diseases ("Von der Bergsucht," Dilingen, 1567) and mineral baths (Basel, 1576), the former one of the few original contributions of his time to internal medicine. In this connection we should mention Baillou's account of whooping-cough (1578) and the original description of the syndrome "mountain sickness" by the Jesuit traveler Joseph d' Acosta (1590)[6].

After the time of Mundinus, there appeared a number of anatomic treatises containing the first rude attempts at pictorial representation of dissected parts. These are the so-called "graphic incunabula" of anatomy, of which appropriate woodcuts from Ketham (Venice, 1493), Peyligk (Leipsic, 1499), Hundt (Leipsic, 1501), Friesen (Strasburg, 1519), Berengario Carpi (Bologna, 1521, 1522), and Dryander (Marburg, 1537) are displayed. These tentative efforts at representation, rare and curious as they are, pale almost into obscurity beside the cartoons, *écorchés* and chalk drawings of the great artists of the period—Luca Signorelli and his pupil Michael Angelo, Raphael and Leonardo da Vinci. Of chief interest are the reproductions of Leonardo's red-chalk drawings from the Ambrosian Library at Milan and the Royal Library at Windsor. Startlingly modern in their accuracy and display of physiologic knowledge, these impromptu sketches, made beside the dissected subject, reveal such acquaintance with muscular anatomy as was possible only to the Greek sculptors, and fully justify William Hunter's claim that their author was "the greatest anatomist of his epoch." The marginal notes, which Leonardo has recorded in mirror-writing lest others appropriate his idéas on the physiology of locomotion, reveal the cautious, secretive spirit of the time. The exhibit of pre-Vesalian anatomy includes, of course, the *editio princeps* of Albert Dürer's treatise on human symmetry (Nuremberg, 1532).

Thoroughly as the great artists of the Renaissance may have studied external anatomy, yet dissecting for teaching purposes was still hampered by the theologic idea of the sanctity of the human body as the image of Godhead and the anatomy of the schools was the anatomy of Galen. How far such teaching had progressed may be gathered from the quaint cut on the title-page of the Melerstat Mundinus (1493), in which the scholastic instructor in long robe and barretta, wand in hand, gravely expounds Galen by the book from his pulpit-chair, while below the long-haired barber-servant makes a desperate shift at demonstrating the viscera of the subject before him. The Faust who was to release the science from these trammels and revive the doctrine of the *visum et repertum* was Andreas Vesalius (1514-64), the most commanding figure in European medicine after Galen and before Harvey. There were plenty of dissectors and dissections before Vesalius, but he alone made anatomy what it is to-day—a living, working science. It was the effect of his strong and engaging personality that made dissecting not only viable but respectable. His career is one of the most romantic in the history of medicine. Flemish born, but of German extraction, a pupil of the ardent and bigoted Galenist, Jacobus Sylvius, Vesalius, in his graduating thesis, showed at first the conventional tendencies of the scholiast, but his mind was too active, his spirit too keen and independent, to feed long on the dust of ages, and he soon established a reputation for first-hand knowledge of the dissected human body, even teaching himself the difficult art, so

4. In All's Well that Ends Well, Act II, Sc. 3, where Lafeu refers to the king's case as incurable, "to be relinquished of the artists," and Parolles replies: "So, I say, both of Galen and Paracelsus"—meaning, of course, that neither the Galenical nor the alchemical school of physicians could help him in any way.

6. d'Acosta, Joseph: Historia natural y moral de las Indias, Sevilla, 1590.

essential to surgeon and gynecologist, of recognizing the palpable structures by an educated sense of touch. Five years' experience as public prosector at Padua, where he made students dissect and inspect the parts *in situ*, culminated in the magnificent "De Fabrica Humani Corporis" (1543), a work which marks an epoch in breaking with the past and throwing overboard Galenical tradition. The effect of a publication so radical on a superstitious and forelock-pulling age was immediate and self-evident. Sylvius, his old teacher, turned against his brilliant pupil with acrimony and coarse abuse, while his own pupil Columbus, an intellectual upstart, sought to cast discredit and derision on him by sharp practice. Others were inclined to "damn with faint praise" or joined in a conspiracy of silence, and, as a last straw, he was subjected to subterranean persecution at the instance of authority. Those things were not without their effect on Vesalius. His portrait suggests a doughty, swarthy, shaggy, full-blooded nature, like some of Lucas Cranach's worthies—a man ready to give no odds and take none, so long as his opponents confronted him in the open; but nowise intended for the spiritual rôle of a martyr. In a fit of indignation he burned his manuscripts, left Padua and accepted the lucrative post of court physician to Emperor Charles V. He married, settled down, became a courtier, and gave up anatomy so completely that, during the long tedious years in Madrid, "he could not get hold of so much as a dried skull, let alone the chance of making a dissection." He paid the penalty of *il gran rifiuto*, when his favorite pupil, Gabriele Falloppio, came to the front as a worthy successor and rumor began to make it clear that he himself was fast becoming the shadow of a great name—

> "Vesalius, who's Vesalius? This Fallopius
> It is who dragged the Galen-idol down."

On receiving the Fallopian "Observationes Anatomicæ" in 1561, all the aspirations of his youth revived, if we may trust his own burning, enthusiastic words, language which fully justifies the implications of Edith Wharton's poem:

> "At least
> I repossess my past, am once again
> No courtier med'cining the whims of kings
> In muffled palace-chambers, but the free
> Friendless Vesalius, with his back against the wall,
> And all the world against him."

In the year 1563, Vesalius set out on a pilgrimage to Jerusalem, as a penance, some say, for an accidental human vivisection, more probably, others think, as a pretext for getting away from his tiresome surroundings. On his way back in 1564, he received word of an invitation to resume his old chair at Padua, just vacated by the death of Fallopius. But his highest wish, to "once more be able to study that true Bible, as we count it, of the human body and of the nature of man," was not to be realized. The sudden access of an obscure malady left Vesalius to die, solitary and unfriended, on the island of Zante.

The exhibit of Vesalius includes his graduating dissertation, the "Paraphrasis" (Basel, 1537); Sir William Sterling Maxwell's facsimile reprint of the "Tabulæ Anatomicæ Sex" (Venice, 1538); the "Epitome" (Basel, 1542), an advance specimen abstract of the "Fabrica," remarkable for the plates representing two handsome specimens of the human race, usually ascribed to Titian; finally the "Fabrica" itself (1543), a superb example of the beautiful typography of his friend Oporinus at Basel, sumptuously illustrated by Titian's pupil, Johan von Calcar. While written in Latin, the "Fabrica" is truly vernacular in the sweeping scorn and violence of its language in dealing with Galenical or other superstitions. Although it completely disposes of Galen's osteology for all time, and indeed recreates the whole gross anatomy of the human body, it has never been translated.

The heretic Servetus (1509-53), whom Calvin caused to be burned at the stake for a mere juggling of verbiage, a theological quibble, was one of the great martyrs for "the crime of honest thought." The discoverer of the *vraie vérité* about the pulmonary circulation, he ranks with Ramon y Cajal as a leader of Spanish medicine. The discovery is recorded in his book "The Restitutio Christianismi" (1553), the foundation stone of Unitarianism, of the original of which only three copies are known to exist. The rare Nuremberg reprint of 1790 on exhibition is probably the only copy in the United States.

The exhibit of anatomic works contemporaneous with Vesalius includes the "Isagoge" (1555) of his teacher Sylvius, to whom the discovery of the Sylvian aqueduct and fissure have been wrongly ascribed, but who discovered the valves in the veins before Fabricius and did good work in the obscure province of descriptive nomenclature; the treatises of Fallopius (1561), Varolius (1573), Vidius (1611), and Eustachius (1714), whose names have been eponymically preserved in the structures they discovered; the monographs "De Formatu Fœtu" (1600) and "De Venarum Ostiolis" (1603) by Harvey's teacher, Fabricius ab Aquapendente; and the examples of French and Spanish anatomic illustration by Stephanus (1546) and Valverde (1556).

The effect of Vesalius on Renaissance surgery is seen in the life-work of Ambroise Paré (1510-90), who made the "Fabrica" popular and accessible to surgeons by writing an epitome of it in the vernacular. Paré's greatest contribution to surgery hinges on the baneful effect which the Hippocratic aphorism that "diseases not curable by iron are curable by fire" exerted on the treatment of gunshot wounds, the new feature of Renaissance surgery. Giovanni di Vigo, physician to Pope Julius II, had taught in his "Practica" (1514), that such wounds were poisoned burns and therefore should be treated with a first dressing of boiling oil. How Paré's supply of boiling oil gave out one night in camp and how he profited by the experience to the extent of letting well enough alone in future is well known. Had it not been for his "fat of puppy-dogs," a lard or salve, which, from some tenacity of superstitition, he continued to apply, he would have been a true asepsist. As it is, his relation to the healing power of nature is summed up in the famous inscription on his statue "Je le pansay, Dieu le guarit." Paré invented many new surgical instruments, made amputation what it is to-day by reintroducing the ligature which had fallen into abeyance since the time of Celsus; was the first to popularize the use of the truss in hernia and described fracture of the neck of the femur. In obstetrics, it was his description and use of podalic version that made the procedure viable and practicable. In dentistry, he introduced reimplantation of the teeth, and his little treatise on medical jurisprudence (1575) was the first work of consequence on the subject prior to the "Methodus Testificandi" of Codronchi (1597).

Paré is represented by his essay on podalic version (1550), his treatise on gunshot wounds (1552), the first edition of his collective works (1575) and his discourse

on the mummy and the unicorn (1582), which successfully disposed of an ancient therapeutic superstition.

In connection with Paré, let mention be made of the works of his predecessors, Marianus Sanctus Barolitanus, who gave the original account of the "Marian operation" or median lithotomy (1535); the Provençal surgeon Pierre Franco, who (1561) rehabilitated the operations for hernia, lateral lithotomy and cataract, which had previously been in the hands of strolling mountebanks or hereditary in certain families, like the Collots and Brancas; the "Practica" (Basel, 1563) of the Swiss surgeon Felix Würtz, a follower of Paracelsus in the simple treatment of wounds; Rousset's treatise on Cesarean section (1581) and Tagliacozzi's revival of rhinoplasty (1597). Wilhelm Fabry of Hilden (1560-1634), whose statue was unveiled last year in his native town, is usually regarded as the father of German surgery. He was a bold and resourceful operator and is fairly represented by his treatise on gangrene (Cologne, 1593), a condition for which he was the first to recommend amputation above the diseased part.

At a respectful distance from the great Renaissance pathbreakers may be grouped the works of a quartette of original thinkers—Benivieni (1502), Cornaro (1467-1566), Fracastoro (1484-1553) and Valerius Cordus (1515-54). The "De Abditis" of the distinguished Florentine Antonio Benivieni (Giunta edition, 1507), has been described by Malgaigne as "the only work on pathology which owes nothing to any one," and as far as mere priority goes its author may be regarded (Sir Clifford Allbutt thinks) as a founder of pathology before Morgagni. Luigi Cornaro's "Trattato della vita sobria" (first edition, Padua, 1558) is probably the best treatise on personal hygiene and the "simple life" in existence. Girolamo Fracastro, the kindly Veronese, who practiced in the Lago di Gardo region, was at once a physician, poet, geologist, astronomer and pathologic theorist, and shares with Leonardo de Vinci the honor of being the first geologist to see fossil remains in the true light. He was also the first scientist to refer to the magnetic poles of the earth (1530). His medical fame rests on that most celebrated of medical poems, "Syphilis sive Morbus Gallicus" (Venice, 1530), which gave the disease its present name[7], and his treatise "De Contagione" (1546), in which he states with wonderful clairvoyance, the modern theory of infection by microorganisms (*seminaria contagionum*).

Valerius Cordus, the gifted Prussian youth, whose early death robbed science of one of its most promising names, is known to medicine for his discovery of sulphuric ether (*oleum dulce vitrioli*) in 1540; but botanists revere him as the young Marcellus of their science. Greene styles him "the inventor of phytography" and points out that the field-work and taxonomy of a well-equipped modern botanist were actually done "almost four centuries ago by a German boy in his teens."[8] His posthumous commentary on Dioscorides, edited with pious hand by Conrad Gesner, not only describes some 500 new species of plants, the ardent search for which eventually cost him his life, but recreates the species listed by Dioscordides in terms of modern botany. The "Dispensatorium" of Cordus is of interest as the first real pharmacopeia to be published (Nuremberg, 1546).

A striking feature of Renaissance medicine was the publication of a large number of encyclopedic treatises by many authors, not unlike the "up-to-date" works written on the cooperative plan in our own time. Of these we may mention the Aldine "Medici Antiqui Omnes" (1547), the "Medicæ Artis Principes" of Stephanus (1567), the Venetian anthology on mineral waters ("De Balneis," 1553), the Gesner collection of surgical treatises (Zürich, 1555), the Basel encyclopedias of gynecology (1566, 1586) and the medical dictionary of Stephanus (1567).

No account of sixteenth-century medicine would be complete without a passing reference to "The Metamorphosis of Ajax" (1596) of Sir John Harington (1561-1612), the witty graceless godson of Queen Elizabeth, who was banished from her court for writing it. The work introduces an important and indispensable improvement in sanitary engineering, but our author's treatment of his theme is entirely in the manner of Aristophanes, Rabelais or the Zähdarm epitaph in "Sartor Resartus." Those who can read the garrulous whimsical old knight as they would the writers of Elizabethan comedy will smile over his facetious pages.

Army Medical Museum.

7. Fracastorius takes the name from Syphilus, a shepherd in the poem, who was stricken with the disease for blaspheming Apollo (liber iii, 329-332):

> "Syphilus ostendit turpes per corpus achores,
> Insomnes primus noctes convulsaque membra
> Sensit et a primo traxit cognomina morbus.
> Syphilidemque ab eo labem dixere coloni."

8. See the chapter on Valerius Cordus in "Landmarks of Botanical History" by Dr. Edward Lee Greene (Smithsonian Misc. Collect., v. 54, Washington, 1909, pp. 270-314), Charming in style and irreproachable in scholarship, this work is cordially recommended to physicians as the best history of early botany and materia medica that has yet appeared.

REPORT OF A CASE OF TRAUMATIC RUPTURE OF THE UMBILICAL CORD WITHIN THE ABDOMINAL WALL AT BIRTH; RECOVERY

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This case is reported with the hope that it will prove of interest on account of its rarity revealed by a search through the literature. The fact, also, that there was an uneventful, uncomplicated recovery, though death from hemorrhage or shock might be expected, is worthy of notice.

Labor was normal; presentation right occipito-anterior. As the head was born it was noticed that the cord was tightly wound about the child's neck. Employing the usual amount of force, an attempt was made to loosen the cord, but it did not yield and ruptured. The body was quickly delivered and an examination revealed a rupture of the umbilical cord within the abdominal wall. The edges of the cord were so retracted into the abdomen that they could not be grasped with forceps. Hemorrhage was not very profuse. The child continued crying.

Under the circumstances, the procedure that seemed most logical and most easily executed was compression. A hard roll of cotton was hastily applied with an abdominal band rather tightly secured.

The cord measured 35 cm. in length, which probably explains why it could not be unwound from about the child's neck.

No blood being detected through the abdominal band, same was not disturbed for eight hours. There was no further hemorrhage but only a slight oozing for a time.

The entire quantity of blood lost was not more than about 6 drams. The umbilicus healed in the usual manner.

2837 Dickson Street.

[COMMENT.—The case reported is not extremely rare. Rupture of the cord intra partum has been observed frequently, rarely in spontaneous labors, more often in

precipitate labors, and also as a result of manipulation to loosen the cord wound round the neck of the fetus and to slip it over its head. The force necessary to tear the cord differs in different cases; some cords are more resistant than others. The average cord will resist a pull of 5 to 20 pounds, when applied gradually. If applied suddenly, as by letting the weight fall the length of the cord, it will generally break with a weight of 1 to 4 pounds.

The cord generally tears near the fetus and not seldom at the place of insertion. The mode of the tear is interesting and explains why serious bleeding after a tear is not very common—at least much more rare than after the cutting of the cord. The tear is irregular and oblique through the amnion, which ruptures first. Then the arteries tear, and lastly the vein. The intima of the arteries rolls in and the muscularis contracts, which causes a rapid closure of the vessels. Because of this tendency to spontaneous arrest of hemorrhage, compression is generally efficient, as in the case recorded above. Seizure of the vessels with the forceps and the use of a small catgut ligature would be easy and more surgical.

This case might serve to justify Shultze's method of managing cases of winding of the cord around the neck. He objects to any attempt to slip the cord over the head as being unnecessary and likely to rupture the cord or to cause a separation of the placenta. As soon as the head is born there is no longer danger of compression of the cord. If the cord is long, the birth of the body will follow without trouble. If it is absolutely or relatively too short, then it is better to apply a double ligature and cut the cord between the ligature.—ED.]

A LARGE LIPOMA OF THE LARYNGO-PHARYNX: REMOVAL EXTRA-ORALLY UNDER COCAIN *

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CHICAGO

The extreme rarity of fatty tumors in the pharynx, the size of the one under discussion, the comparative safety and simplicity of its removal through the mouth, and the improvement in weight, general health and comfort of the patient due to its extirpation, are reasons for placing this case on record. So extremely rare are lipomata in this region that I finally abandoned searching the literature and accepted the statement in the 1909 edition of Dr. D. Braden Kyle's "Diseases of the Nose and Throat" that but one pharyngeal lipoma had at that time ever been reported. That patient was eighty years of age; the tumor originated from the left side of the epiglottis and from the pharyngeal wall; and the symptoms were those of a movable foreign body.

History.—In October, 1907, when I first saw Mrs. C., she was a rather small woman of 27 years. She had lived in central Wisconsin and had never succeeded in obtaining an explanation of her symptoms. For an indefinite number of years the patient had experienced a vague feeling of "something growing in the throat" and of difficulty in swallowing, requiring an effort to get the bolus started, and sometimes actual inhibition of the swallowing act at its inception. A tendency for food to lodge somewhere and be recovered after some hours or even two or three days had existed. Breathing was quite decidedly interfered with, noticed most on exertion, and a noise in breathing was present a part of the time, especially at night. But like most instances of similar slow onset of obstructive tumors, the patient seems to have accommodated herself well to the advancing growth; for, aside from slight nervousness, she was apparently in good health, and yet certainly the nutritive processes were being interfered with more than was at the time realized, as shown by the great increase in body weight following removal. Nothing of moment bearing on the condition was apparent in her medical history; she had had goiter at 13, which had receded, rheumatism, measles, acute appendicitis and acute tonsillitis, and moderate nasal occlusion, found to be due to chronic intumescence.

Examination.—Some enlargement of the glands at the angles of the jaw was noted; this had been present for some time. But the external surface of the neck gave no indication of any abnormality within, even on palpation, except that inward pressure slightly below the angle of the jaw on the right produced dyspnea. Thus the external structures of the neck gave not the slightest indication of involvement by the neoplastic process. The tumor could be seen on the posterior and right lateral wall of the pharynx on depressing the tongue. Its uppermost margin reached to the height of the base of the uvula when the soft palate was at rest. From here it extended downward until its broadened lower portion lay over the laryngeal opening half an inch above the arytenoid cartilages. Thus air in passing in and out of the larynx had to take a markedly twisted course, around the overhanging growth. The tumor was much broader at its base, tapering gradually toward its upper end; its shape at any one time was probably modified by the effect of gravitation, due to changed position, for it seemed capable of considerable movement; at its lower part the growth extended more than two-thirds the distance across the laryngopharynx from right to left and gradually this breadth lessened until at the upper part the lateral extent was only one-third the way across. It was covered by healthy-appearing mucous membrane, without evidence of congestion or of enlarged vessels. On palpation the tumor seemed remarkedly soft and yielding, not firm enough for an ordinary solid, easily mistaken for a fluid, as if a somewhat flexible-walled sac were only partially distended with a liquid, thus permitting the contents to be pressed from one part of the sac to another. Being not at all tender, and, besides, of long standing, it was thought at this stage of the examination, both by two other experienced laryngologists who examined it and by myself, to be a cyst. The aspirating needle passed through a thick wall and then the distal end could be moved freely about, as if in a cavity; but no fluid could be obtained; the needle was plunged in straighter and entered a soft substance, thought possibly to be viscid fluid, but nothing could be aspirated. A trocar having a much larger bore than that of the needle was then employed, but with an identical experience. Incision then was made and this disclosed fatty tissue, which could easily be separated from what was evidently the capsule of a tumor. The needle and trocar had shoved the tumor away from its capsule, thus creating a cavity, easily mistaken for a fluid sac. The microscope served to confirm the lipomatous appearance of the growth. Thus the examination had proved an encapsulated lipoma superficially placed in the fascia beneath the mucous membrane and with no indication of a vascular supply different from lipomatous growths generally. Clearly the indication was to attempt removal in the simplest manner possible.

Operation.—Ten per cent. cocain wich full commercial strength suprarenalin (epinephrin) were applied over the surface of the growth, and cocain was applied also to the operative field during the act of removal. An incision through the mucous membrane and the capsule of the tumor was made vertically, near the center of the swelling, from about the level of the tip of the uvula to a point slightly below the level of the tip of the epiglottis, a distance of 3 inches. The tumor was seized above through this incision with forceps and the process of enucleation carried on. Pulling on the mass brought the hyoid bone plainly into the pharyngeal space. Mostly with blunt instruments, including the finger, but occasionally with tonsil scissors and knives set at an angle in long handles, for the heavier binding threads, the growth was shelled out of its capsule. It was not always easy to see clearly whether

* Read before the Chicago Laryngological and Otological Society, April 18, 1911.

one was working within or without the capsule and considerable time was wasted at first through this fact, but no more than moderately severe difficulty was experienced at any time. In the course of the enucleation a thick plate-like mass of tissue fell out into the wound and was cut off. This was apparently the overdeveloped fascia that ordinarily exists between the mucous membrane and the constrictor muscles. The hemorrhage was slight and the wound could be kept quite free from blood. It was found unnecessary to ligate any vessel. After removal the edges of the incision lay an inch apart. They were easily brought together and three stitches taken. The fourth was prevented by the breaking of the edges of the mucous membrane; this left the lower angle of the wound open for about three-quarters of an inch in a vertical direction and three-eighths of an inch in width and this was the only provision made for drainage. But moderate pain was experienced until the last stitch was taken.

Postoperative History.—Feeding was carried on through the mouth, using small swallows of milk; the stitches held. The temperature reached 101 F. on the following day. Only moderate reaction occurred, with very little edema. After the third day the temperature did not reach higher than 99.5 F. and the hyperemia then became slight; a gland on the outside opposite the incision became a trifle tender, but quickly disappeared. On the eleventh day the wound was scarcely visible and the pain entirely gone.

Specimen.—The tumor was characteristically lobulated, and, as it lay flat on the table, measured 3¼ inches long, 2¼ inches broad and 1 inch thick, its shape altering with its position. Since the patient immediately left the city, I did not see her for three years, although rumors of great increase in weight reached me. When I did see her, I was somewhat astonished to note the remarkable change in physique, the patient having altered in type from a somewhat small to a much larger woman. The weight had increased from 124 to 156 pounds. After the operation, the husband had felt alarm at the quietness of his wife's breathing, and the patient would find her food well down the esophagus before she realized the act of swallowing had begun. Excepting for two or three small obscure patches of thin, shiny scar tissue, the pharynx appeared normal.

15 East Washington Street.

GLASS TUBE IN THE MALE URETHRA

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History.—Some time since a man aged 27 came to my office saying there was a piece of glass tubing in his urethra which he was unable to remove. He gave no satisfactory information as to how it came there.

Examination.—A few drops of blood appeared at the meatus and there could be felt in the perineum just behind the scrotum a firm body in the line of the urethra; this proved to be the end of the glass tube. By digital examination of the base of the bladder through the rectum the deeper end of the object could be felt lying within the cavity of the bladder and pushing the posterior wall of the bladder backward on the rectum. The anterior end of the object could be felt by introducing a urethral sound.

Removal.—It occurred to me that the tube might be removed through the lumen of an endoscope or urethroscope. Accordingly, I introduced an endoscope, size 26 F., till it came in contact with the forward end of the glass tube, and after removing the obturator I was able to feel the tube slip into the opening of the endoscope. Then with one finger in the rectum I was able to force the tube forward still farther into the endoscope, until finally it was easily removed within the instrument. No anesthesia was used.

There was little tenderness of the parts after the manipulation. The tube was 3/16 of an inch in diameter and between 5 and 6 inches in length. At both ends the tube was rough broken. The patient recovered without further difficulty.

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THE STATUS OF SALVARSAN IN PELLAGRA, BASED ON THE REPORTS OF TWENTY-ONE COLLECTED CASES

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MOBILE

The occasional beneficial effects following the administration of various forms of arsenic in pellagra has led several physicians to employ salvarsan in pellagra. In an effort to obtain an early opinion of the therapeutic results we have collected the reports of sixteen unpublished cases, and these together with three cases reported by Nice, McLester and Torrance,[1] and two cases of our own, form the basis of this report. This includes, as nearly as we can ascertain, all the cases of pellagra treated with salvarsan up to May 1, 1911.

We take pleasure in thanking the following physicians for the reports of the sixteen unpublished cases that make this report possible: Dr. Rufus T. Dorsey, Atlanta, Ga., two cases; Dr. E. H. Martin, Hot Springs, Ark., one case; Dr. W. J. Love, Opelika, Ala., one case; Dr. Wilmer L. Allison, Ft. Worth, Texas, three cases; Dr. C. C. Bass, New Orleans, La., one case; Dr. J. Edgar Paullin, Atlanta, Ga., seven cases; Dr. J. D. S. Davis, Birmingham, Ala., one case.

The fact that all the patients have been recently treated precludes any positive conclusions as to any permanent beneficial effects resulting from the use of salvarsan in this disease. All types and stages of the disease have been treated. There has been no uniformity in the manner of administration or the quantity or frequency of the dose. The drug has been given both intramuscularly and intravenously, in amount from 0.1 to 0.69 gm. Most of the cases had a single dose, one had two doses and two were given three doses.

Hospital residence and the coincident administration of other forms of arsenic has to be considered in the reported beneficial results of at least four of the improved cases. To what extent the saline solution administered with the drug intravenously has bearing on some of the cases improved, it would be difficult to say, though it is worthy of consideration. There was an untoward effect in one case, a profuse diarrhea following the drug administration. The physician having this experience administered salvarsan in seven cases and noted no improvement whatsoever in any of the seven cases.

Type of case treated: mild acute, three; mild chronic, four; severe acute, four; severe chronic, seven; type unknown, three; total, twenty-one.

No improvement was noted in ten cases, 47.6 per cent.; improvement noted for at least seven days with no relapse, seven cases, 33.3 per cent.; temporary improvement followed by relapse (death in one), four cases, 20 per cent.

Improvement was noted in the following type of cases: severe chronic, six cases; severe acute, two cases; type unknown, three cases.

CONCLUSIONS

Any administration of salvarsan in this disease of unknown etiology must be considered as empirical when we recall that this drug is considered specific for the *Spirochæta pallida*.

The well-known dangers of administering salvarsan to patients suffering from cardiac and renal lesions

1. Nice, C. M., McLester, J. S., and Torrance, G.: THE JOURNAL A. M. A., March 25, 1911, p. 896.

should contraindicate its use in many cases of pellagra because of their well-known tendency to myocardial and renal degenerations. If given at all it should be given in broken and repeated doses and preferably by the intramuscular method.

The clinical evidence brought forth in this report shows only 33.3 per cent. of improvement lasting seven or more days. Considering that this includes the treatment of all the types of the disease and that no patients are reported cured, we feel that thus far salvarsan offers no better results than other methods of treatment.

202 Conti Street.

EXPERIMENTS ON THE TRANSMISSION OF SCARLET FEVER TO MONKEYS *

LUDVIG HEKTOEN, M.D., AND GEORGE H. WEAVER, M.D.
CHICAGO

In view of recent reports of the successful inoculation of monkeys with scarlet fever it was thought of interest to relate some experiments made in the interval from Dec. 10, 1909, to September, 1910. Materials from the throats and mouths of children with scarlet fever were collected on cotton swabs and the swabs washed off in milk. The milk thus infected was fed to monkeys. Thirteen monkeys (*Macacus rhesus*) were fed in this way; ten remained well, showing no fever or leukocytosis, and three died. The three monkeys which died may be designated as Nos. 1, 2 and 3.

No. 1 was fed the infected milk on Dec. 10, 11, 13 and 14, 1909, became sick December 20, and died December 21. The autopsy showed a fibrinous peritonitis. The peritoneal exudate and the heart's blood contained colon bacilli; no streptococci or other bacilli could be demonstrated by microscopic or cultural methods.

No. 2 was fed the same materials on the same days as No. 1. On Jan. 7, 1910, he became sick and died Jan. 17, 1910. At the autopsy there was a moderate general edema with fluid in the pericardium, and the urine in the bladder which was clear gave a marked zone of albumin with nitric acid, but no tube casts were found in it. Microscopically there were some parenchymatous changes in the kidneys.

No. 3 was fed infected milk on Jan. 26, 27 and 29, 1910. January 29 he became sick and died on January 31. Shortly before death the blood showed a leukocytosis of 38,800. At the autopsy no macroscopic lesions were found other than hemorrhage in the right adrenal. The pharynx was normal. Cultures from the heart's blood were sterile; no streptococci were found anywhere. Blood removed from the heart of this animal immediately after death was mixed with sterile milk, and fed to a healthy monkey (4) on Feb. 1, 2 and 3, 1910. On February 5, it became sick and refused food. Its temperature was 103.8 to 104.1 F. and the leukocyte count was 52,000. The leukocytes persisted for five days and disappeared, as the temperature subsided and the appetite returned.

We do not attempt to decide whether Monkeys 1, 2 and 3 really had scarlet fever, or whether the one which was fed the blood from Monkey 3 had this disease. The course of the sickness in this last animal, coming on four days after the feeding, running a short course accompanied by fever and leukocytosis, is very suggestive. We were, however, unable to observe any cutaneous eruption. If monkeys are susceptible to infection with scarlet fever, the susceptibility would seem to be rather slight and there must be a good deal of natural resistance as in man. We had hoped to add further observations before making a report, but as this matter is interesting so many just now, these experiments may be of use to others and are therefore reported.

* From the Memorial Institute for Infectious Diseases.

THE CULTIVATION OF TISSUES IN SALT SOLUTIONS *

MARGARET REED LEWIS AND WARREN H. LEWIS, M.D.
BALTIMORE

The introduction by Harrison[1] of the important method of the study of the growth of small pieces of living tissues of cold-blooded animals transplanted into lymph and the later extension of this method by Burrows and Carrel[2] to warm-blooded animals by transplanting into plasma marks the beginning of a new epoch in experimental anatomy.

The result of the observations given below, that embryonic chick tissue will grow in various salt solutions, further broadens the field of work in that tissues can be studied in media all the constituents of which are known and the reaction of the cells to different substances can be more definitely determined.

After the cultivation of embryonic chick tissues in nutrient agar and bouillon media,[3] it was found that such tissues would grow nearly as well in Locke's solution to which small amounts of certain of the polypeptids and amido-acids had been added. Later it was discovered that these tissues grow nearly as well in various salt solutions. Over one hundred combinations have been tried with sodium chlorid, calcium chlorid, potassium chlorid and sodium bicarbonate, with and without sugars, and in the great majority of the solutions growth takes place. A more extended account of the growth of tissues in the salt solutions will appear in the *Anatomical Record* for June, 1911.

Locke's solution, first obtained from Dr. D. R. Hooker of the Physiological Laboratory of the formula, NaCl .9 per cent., $CaCl_2$ .025 per cent., KCl .042 per cent., and $NaHCO_3$ 0.02 per cent. to which was added 0.25 per cent. dextrose has given quite satisfactory results in that the growths nearly equal those in plasma. Of three series containing eighty cultures in this medium, all showed growth, which reached its maximum in from twenty-four to seventy-two hours and lasted from three to eight days.

Good growth has been obtained, however, in the salts alone without the dextrose or other sugar. Sodium chlorid seems to be the one essential salt, as growth did not take place in the various combinations of the other salts without the sodium chlorid, while growth did take place in a pure sodium chlorid solution of 0.75 per cent. and 0.9 per cent. Growth took place in solutions of sodium chlorid with the other salts in which the percentage of sodium chlorid varied from 0.225 per cent. to 1.695 per cent. There might also be great variation in the percentages of the other salts. Evidently tissues will grow in solutions of varying osmotic pressures.

The character of the growth in these salt solutions is similar to that of tissues in plasma but the growth is not so extensive. Radiating and migrating cells, reticular formations, various types of membranes and both mitotic and amitotic cell division are found in the cultures. The intestine, for example, often shows membrane growth, reminding one very much of peritoneum. Sympathetic nerve fibers grow in various salt solutions and also in such solutions plus dextrose. Their mode

* From the Anatomical Laboratory, Johns Hopkins University.

1. Harrison: Anat. Rec., 1907, 1; 1908, iii; Jour. Exper. Zool., 1910, ix.

2. Compt. rend. Soc. de biol., 1910; THE JOURNAL A. M. A., Oct. 15, 1910, p. 1379; Dec. 10, 1910, p. 2057; Jan. 7, 1911, p. 33; Jour. Exper. Zool., January, 1911; Jour. Exper. Med., No. 3, 1911; No. 4, 1911.

3. Lewis and Lewis: Bull. Johns Hopkins Hosp., April, 1911.

of growth is very similar to that observed by Harrison in amphibia and by Burrows in the chick when the material was taken from the central nervous system and transplanted into lymph or plasma. Since such growth does take place in fluid media, it is evident that the fibrin network is not essential for the outgrowth of the nerve fiber, nor is it necessary for the growth of other cells or the formation of long slender processes of various kinds. The under side of the cover-glass often seems to act as a support for the outgrowing cells and fibers. This adhesion of the growths to the cover-slip makes it possible to study the cultures to better advantage than otherwise since most of the growth is often in one plane.

The material which gave the best results was from embryo chicks less than ten days old. The cultures were grown in hanging drops.

THE EFFECT OF INJECTIONS OF INDOL AND TYROSIN IN EXPERIMENTAL ANIMALS

A PRELIMINARY REPORT *

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CINCINNATI

During the past year we commenced a series of experiments on rabbits and white rats, the object of which was to discover what relation chronic intoxications with some of the lower derivatives of protein decomposition bore to changes in the adrenals and kidneys. We had a suspicion that indol might have, in the process of secretion, or in the process of transformation into indican, or both, an effect in producing changes in the organs which would indicate hyperactivity of certain organs (the liver, and perhaps the adrenals) or irritative changes in others (the kidneys). There seemed to be some basis for this suspicion in the fact that indicanuria, especially when it is of well-marked degree, is accompanied by albuminuria and cylindruria. It seemed useful to discover, therefore, whether injections of indol would produce any noticeable changes in the kidneys; and, since the liver has been supposed to be the site of transformation into indican, it seemed possible that some changes in that organ might be expected. The tyrosin series had a different basis. We were interested in the physiology of the adrenal glands and had been led to suspect that the pigmentation of Addison's disease might be a result of variation in either the content of the chromaffin tissues in tyrosinase, or in the overabundance of tyrosin or some related substance in the body. This was indicated by the suggestion of von Fürth that melanin and related bodies are the result of the action of tyrosinase or related oxydases on the aromatic constituents of the protein molecule, a suggestion which, as Adami says, has been supported by Halle, who demonstrated that tyrosin is converted into epinephrin by a ferment in the adrenal. Adami suggests that pigmentation in Addison's disease is produced when this ferment is deficient—when, in other words, the tyrosin is not converted into epinephrin by the adrenal, but into melanin in the skin. All of which induced us to attempt to discover whether tyrosin would stimulate the adrenals to increased activity or whether large excesses of tyrosin would produce melanosis in experimental animals. If the former were the case, we might expect to find as a result of increased epinephrin production either arterial changes or renal changes or both.

Finally, because of the similarity in origin of indol and tyrosin, we ran parallel series, each with its control.

We have no definite knowledge of the manner of action or of the effects of tyrosin in the organism. We know but little more concerning indol. We are led to think that massive doses of the latter may be consumed with no, or but little, ill effects in normal man (Nesbitt). Such effects are headache, insomnia, confusion and irritability (Herter), and, with decreased activity of the cells in disposing of such substances, intoxications are possible (Richards and Howland). It is, however, possible that comparatively small doses given over long periods of time may, even without producing symptoms, cause changes in the organs which may lead to very serious results.

Our series of experiments deal with the possibilities of such results.

In performing these experiments we used rabbits and white rats. Originally we used intravenous injections. Later we resorted to intraperitoneal injections. We used saturated aqueous solutions of Kahlbaum's indol and tyrosin.

For the sake of brevity we shall at this time merely summarize our results by saying that after these injections we have found the medullas of the adrenals hyperplastic and apparently hypertrophic, and that the evidences of chromaffin activity increased in proportion to the number of injections. The chrome reaction is similarly increased. We also found very slight interstitial changes in the kidneys.

We had, at the commencement of our experiments, a suspected relation between tyrosin and adrenal changes; a suspicion of a possible relation between indol and renal changes; and the possibility of a relation between adrenal and renal changes.

From our incomplete results, the small importance of which we realize, we are not justified in drawing any conclusion, but we might suggest for the sake of perspective that, provided it be true that a true hyperactivity of the chromaffin is produced by one or other, or both of the substances we have used, or by other substances of the same chemical order, that is to say, belonging to the aromatic series, it might be suspected that such an hyperactivity, extending over a considerable period of time, may be a cause, perhaps the cause, of the symptom-complex known as diabetes. This would result from a change in the chromaffin-pancreas equilibrium.

Eppinger, to whom the idea possibly was suggested by Boinet, has remarked that tuberculin may be a substance which of itself produced inactivity of the chromaffin tissues of the body, and that by means of tuberculin the pancreas-adrenal equilibrium can be upset on the adrenal side; that is to say, in the Addisonian direction. In other words, under the influence of tuberculin the glycolytic function of the organism is increased.

Our experiments in this direction have led us already to a temporary belief, at least, in Eppinger's conception. We have found that seven injections, each of 0.5 mg., of tuberculin led to an increase of sugar consumption in rabbits. A normal rabbit after 50 gm. of glucose (by mouth) showed 0.43 gm. of glucose in the urine (1.72 per cent.). The same rabbit after seven injections of tuberculin showed 0.07 gm. (0.35 per cent.). These results with tuberculin, especially in view of the fact that the medulla of the glands shows atrophy after tuberculin treatment, are interesting if considered with

* From the Laboratories of the Cincinnati Hospital.
* Read before the Cincinnati Society of Medical Research, April 6, 1911.

the fact that in the diagnosis of Addison's disease tuberculin should be used with the greatest circumspection. Our final suggestion is that it seems possible that tuberculin injection may be of value in the treatment of diabetes, because of its influence on the chromaffin, and, through that influence, because of its tendency to bring back—to correct—the adrenal-pancreas equilibrium. We are continuing our work by carrying out a careful series of physiologic experiments.

CONJUGAL TABES DORSALIS *

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PHILADELPHIA

Recent discoveries have thrown a strong light on certain hitherto suspected but not definitively demonstrable relations of syphilis. The view that tabes dorsalis and paretic dementia are essentially of syphilitic origin has been finally established by the results of the serum-complement reaction. For the purposes of this discussion tabes and paresis may be looked on as expressions of the same morbid process, in the one instance affecting especially the spinal cord, and in the other especially the brain. Not rarely the two affections are associated in the same patient. Of the large number of persons infected with syphilis, however, only a comparatively small proportion become tabetic or paretic. Negroes, although frequently syphilitic, rarely develop tabes or paresis. Perhaps they possess an inherent racial immunity. An explanation for the disparity in the incidence of the two diseases must be sought in some special factor, whether on the part of the infected individual or on the part of the infecting virus. This may reside in a lowering of the resistance of the nervous system as a result of previous disease, or intoxication or traumatism, or other debilitating or exhausting influence; or in a particular and peculiar activity of the syphilitic infection. These forces may operate separately or jointly.

Occasionally tabes or paresis appears in several members of the same family, simultaneously or consecutively. Thus, husband and wife may be affected; sometimes in addition a second husband or wife, or one or more children. Under such circumstances syphilis is quite invariably the common etiologic factor. Each of those affected may present the same form of disease of the nervous system, or one may suffer from one and the other from another form. The association is not common, although probably more so than is apparent, as inquiry is not, as a rule, directed toward this point. Moreover, the disease of the nervous system does not usually appear simultaneously in those affected, and the association may for this reason be overlooked. That tabes and paresis are more prevalent among men than among women is most likely due to the fact that both affections are so often secondary to syphilis, and that this disease is usually acquired through illicit intercourse, an infected woman inoculating several men.

The occurrence of paretic dementia in husband and wife appears to have been recognized only since 1863, when Kjellberg[1] reported the first instances. Tabes dorsalis in husband and wife was first recorded by Voigt[2] in 1885. Both patients presented evidences of syphilis, and the venereal disease, as well as the disease of the nervous system, appeared the earlier in the man. Strümpell,[3] in 1888, reported a similar association and sequence. A comparatively small number of cases of like character have been reported since, largely from German sources. American literature contains a case recorded by F. Savary Pearce[4] from the practice of S. Weir Mitchell, and refers to four other cases observed by Dr. Mitchell; a case recorded by A. P. Francine[5] in a negro barber and his wife; and three cases of conjugal paretic dementia recorded by Richard Dewey.[6] Mendel,[7] in 1895, reported sixteen cases of conjugal tabes and paresis, and came to the conclusion that under such circumstances paresis occurs more commonly than tabes, and that the husband is almost invariably attacked first. Raecke,[8] in 1899, was able to tabulate sixty-nine cases of conjugal tabes and paresis, including seventeen of his own. In twenty-seven there was paresis in both; in twenty-two, tabes in both; in fourteen, paresis in husband and tabes in wife; in six, paresis in wife and tabes in husband. It thus appears that the husband is the more commonly paretic, the wife the more commonly tabetic. The former was generally attacked first.

Moenkemoeller,[9] in 1900, reported eighteen additional cases and referred the usual occurrence of the disease in the husband first to the fact that he is generally syphilitic and infects his wife.

Idelson[1] considers the incidence as more than accidental; else other disorders of the nervous system might be expected to occur in husband and wife with equal frequency. He reports the simultaneous appearance of paresis in husband and wife, both syphilitic at the same time. He was impressed by a certain uniformity in the course of the disease in the persons affected.

Erb[10] concurs, from an abundant experience, in the view that the tabetic husband and wife are almost invariably syphilitic, the former generally infecting the latter, less commonly the wife the husband, and both becoming tabetic or paretic in succession.

Suntheim[11] has made a comprehensive study of conjugal tabes and paresis, reporting twenty-three previously unrecorded cases among 255 carefully studied patients seen in the course of six or seven years. Among 101 cases of tabes in men there were five in which the wife was similarly affected; among fifty-one cases in women there were nine in which the husband also was affected. In sixty-one cases of paresis in men there were five in which the wife also was affected, and among forty-two cases in women there were four in which the husband also was affected. Suntheim points out that while at the beginning the disease of the nervous system, as a rule, pursues the same course in husband and wife, there are differences in its subsequent evolution, the development being more rapid and the symptoms more pronounced in the second person attacked. Often the interval between the syphilitic infection and the appearance of the symptoms of the disease of the nervous system is the same in both. Suntheim found that the syphilitic infection was conveyed through the husband in ten instances as against one in which it was conveyed through the wife (and in this instance the disease was acquired by accident); symptoms of the nervous disorder appeared first in the husband in seven instances

* Read before the Association of American Physicians, May 9, 1911.

1. Cited by Idelson: St. Petersburg. med. Wchnschr., 1901, xlii, 473.
2. Centralbl. f. Nervenh., Psychiat. u. gericht. Psychopathol., April 15, 1885, viii, 169.
3. Neurol. Centralbl., 1888, xvii, 122.
4. Jour. Nerv. and Ment. Dis., 1895, xx, 8.
5. Am. Jour. Med. Sc., 1900, cxix, 543.
6. Chicago Med. Recorder, October, 1893, p. 233.
7. Neurol. Centralbl., 1895, xiv, 335.
8. Monatschr. f. Psychiat. u. Neurol., 1899, vi, 266.
9. Monatschr. f. Psychiat. u. Neurol., 1900, viii, 421.
10. Berl. klin. Wchnschr., 1904, lii, 64.
11. Inaugural Dissertation, Leipsic, 1909.

and in the wife in three instances. In the majority of instances both husband and wife suffered from the same form of nervous disease. The interval between the syphilitic infection and the development of the disease of the nervous system varied between two and thirty-five years, averaging fifteen years, in the husband 17.7 years and in the wife 13.3 years. The duration of the nervous disorder was longer in the secondary than in the primary cases, although when tabes developed in the second person the course of the disease was less rapid than when paresis developed.

I have had under observation the case of a husband and wife with tabes dorsalis, symptoms of the disease appearing in both at about the same time. No history of syphilis was elicited, although infection may have occurred. The woman presented herself in July, 1907, when she was 40 years old, complaining for one year of a sense of burning on the anterior aspect of the chest and in the sacral region, and of general weakness. She was neurotic and perspired freely, and she did not appreciate distinctly pricking the flesh of the abdominal wall. There was some dyspnea and a feeling of suffocation. The bowels were constipated and the stools contained mucus. At times there was headache, and sleep was variable. The action of the heart was rhythmic and the sounds were clear. Menstruation had been absent for a year. Three years previously the woman had fallen in alighting from a street-car, and she had made a settlement with the company. At this time her husband was 55 years old, and he was said to be "rheumatic" and not strong. He had been married previously and his first wife had borne three healthy children; five other children had died from various causes. The second marriage had resulted in the birth of eight children and one miscarriage; five of the children were well and three had died (chicken-pox, cholera infantum, circumcision). In January, 1908, the woman complained of a sense of constriction about the waist, together with headache, vertigo, weakness in the lower extremities and partial incontinence of urine, but the knee-jerks were preserved, as they were also a month later.

In January, 1910, there was difficulty in walking, with ataxic gait and swaying station, weakness of the anal sphincter after the use of laxatives, and difficulty in expulsion and retention of urine. The knee-jerks were now absent and they could not be elicited even with reinforcement. Coordination in the upper extremities also was somewhat impaired. The pupils were of moderate size and reactive to light and in accommodation.

The husband came under observation in August, 1909, when he was 57 years old. He had been complaining for eighteen months of a lack of feeling and of numbness in the lower extremities, with difficulty in locomotion. His gait was awkward, though not characteristically ataxic, the feet being lifted high, somewhat as if to avoid pain, and station was unsteady. There was also some want of control of the bladder. The pupils were of moderate size, but not reactive to light. The knee-jerks were absent, and could not be elicited on reinforcement. There was a history of "rheumatism" nineteen years and also five years previously.

It is a little difficult to decide whether in these two patients the symptoms of tabes did or did not develop simultaneously, the woman complaining of constriction about the waist, weakness of the lower extremities and partial loss of control of the sphincter of the bladder, but with preservation of the knee-jerks, at about the same time as the man was complaining of numbness in the lower extremities, with difficulty in walking. The disease of the nervous system was recognized earlier in the man.

Through the courtesy of the late Dr. Wharton Sinkler, of Dr. Morris J. Lewis and of Dr. John K. Mitchell, I have been permitted to examine the dispensary records at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, and among 244 cases of tabes dorsalis seen during sixteen years I have been able to find only two instances in which the disease occurred in husband and wife. One of these is that of the colored man and woman already reported by Francine.[5] The other is herewith reported:

A woman, 45 years old, came to the clinic of Dr. John K. Mitchell June 12, 1905, complaining of pain in the lower extremities of three years' standing, incontinence of urine for two years, difficulty in walking for one year, paresthesias of the lower extremities, with swaying station, ataxic gait, incoordination in the upper extremities, abolition of knee-jerks, ankle-jerks and elbow-jerks, pin-point pupils, reacting neither to light nor in accommodation, and grayish coloration of the optic disks. Her husband, who did not apply for treatment and insisted that there was nothing wrong with him, but admitted having had a chancre earlier in life, presented markedly contracted pupils, apparently reacting in accommodation but not to light, swaying station and abolition of knee-jerks. He was able to go on with his work as a pattern-maker.

CONCLUSIONS

Syphilis is a common disease. It is the most important, if not the essential, cause of tabes dorsalis (and of paretic dementia). Tabes and paresis may be considered expressions of the same morbid process, in the one instance affecting especially the spinal cord, in the other especially the brain. Sometimes they occur together in the same patient. The disparity in incidence of the two affections may be due to individual predisposition or to some peculiarity of the syphilitic virus. Negroes rarely, if ever, develop tabes, though they are frequently syphilitic. Sometimes several members of a family develop tabes or paresis, sometimes husband and wife, sometimes in addition a second husband or wife, sometimes one or both parents, together with one or more children. The association is not common, although probably more so than is apparent. When husband and wife suffer, the former generally is attacked first, the latter subsequently. A moderate number of cases have been recorded in the literature.

1019 Spruce Street.

V. 191

THE GASTRIC WEAK LINE IN WOUNDS OF THE ABDOMINAL WALL *

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After operations on the stomach the wound of the abdominal wall sometimes opens unexpectedly a few days after operation. There is no evidence of sepsis, and primary union appears to have taken place in advance of the accident.

If the patient survives, tardy repair follows, with little tendency to free granulation and suppuration. The discharge from the wound surface at first is sero-sanguinolent. Such cases have occurred in my own practice from time to time, and conversation with surgeons indicates that all of us are more or less familiar with the subject, but no one seems to have an explanation for the frequent occurrence of this complication after stomach operations, which is out of proportion to somewhat similar failures of union noted after operations elsewhere in the body, and in some cases explainable, no doubt, along the lines to be noted presently.

Recently I had one such case at the Post-Graduate Hospital after separation of pyloric adhesions, and

* Read at the fourteenth annual meeting of the American Gastro-Enterological Association, Philadelphia, April 19, 1911.

another in the Plant Pavilion at St. Luke's Hospital following a pyloroplasty. The house surgeons at both hospitals informed me of two other similar cases at the same time in the practice of other surgeons.

These four cases, coming to my knowledge simultaneously, made it desirable to seek for an explanation for an accident which would seem to call for special description.

Dr. Edward Preble was engaged to study the literature on the subject at the library of the New York Academy of Medicine, and reported that nothing relating directly to the subject could be found.

REPORT OF CASE

History.—The case on which the following remarks are based was that of the patient at the Post-Graduate Hospital, C. J., aged 45, a baker, well nourished, except that he had lost 11 pounds in weight during five weeks before his coming to the hospital. He had suffered from epigastric pain, constipation, morning vomiting, and acid dyspepsia. He was admitted to the service of Dr. Edward Quintard on Jan. 16, 1911. Dr. Ludwig Kast made a series of examinations of the stomach with the aid of the fluoroscope and bismuth solution in the stomach, and reported interference with stomach motility at the pylorus; he thought that the patient very likely had at that point a scar of an old ulcer. A certain shadow at one time suggested the presence of a tumor, but no tumor was palpable. My own impression was that he had a case of adhesions of the bile-tract region, engaging the pylorus. The patient under medical treatment while at the hospital gained seven pounds in weight, but symptoms continuing, he was transferred to my service on February 1.

Operation.—I made a mid-line incision and separated the extensive adhesions about the pylorus, of the type which I have described as "cobwebs of the attic of the abdomen," due apparently to the influence of toxins excreted by the liver, or to local infection. A sheet of Cargile membrane was applied to the area from which adhesions had been separated, to prevent recurrence.

Postoperative History.—The wound was dressed for the first time February 3, and primary union reported. Four days later the wound suddenly opened for a distance of four inches through the skin and superficial fascia. There was no local evidence of inflammation. The patient left the hospital a month later with a wound which had tardily progressed toward repair.

Shortly after the wound opened it occurred to me that evidence of some trophic fault was sufficient for investigation along the lines suggested by Head,[1] relating to certain superficial zones which are known to be irritated in connection with irritation of different viscera. Ross and Sherrington had previously shown that with certain kinds of visceral disturbance an impulse was sent along afferent nerves to definite segments of the spinal cord, and referred along the somatic nerve distribution from such parts of the cord, giving areas of skin tenderness.

Head arranged these areas in zones, and showed that when we have ulcer of the stomach sensory nerves of the skin are irritated in a zone which forms a triangle, the base of which is at the linea alba, extending between the ensiform cartilage and the navel, with its apex at the ninth intercostal space.

It seemed to me we might assume that trophic nerve disturbance or neurovascular disturbance would occur in the same superficial area along with disturbance of the sensory nerves, and that could account for the failure of repair in the area of the stomach zone of Head. On examining the right Head zone of this patient with the point of a pair of dressing forceps I found instead of hyperesthesia a distinct lessening of sensation in the right Head zone, but in the left zone two small points of hyperesthesia.

On the following day one of my assistants, Dr. Freudenthal, made an independent examination, not knowing of mine, and said that he seemed to find diminished sensation in the right Head zone, and no point of hyperesthesia.

At this time the patient was rapidly recovering from the source of irritation at the pylorus, and it is probable that we had in the superficial zone a disturbance different from that which might have been found just in advance of the operation, or immediately afterward.

Subsequent examination of this patient by Dr. Freudenthal, Dr. Kast, and myself indicated that sensation in the stomach Head zone was practically normal. We seem, however, to have rather good evidence that the trophic nerves, which are distributed along with the sensory nerves of the superficial area, are irritated simultaneously with the sensory nerves, and this leads to failure of repair in these wounds after stomach operations.

Dr. Kast suggested that contributory testimony would be furnished by applying cantharides cerate on a point within the Head zone and on a near-by part of the body in order to note the comparative character of reactions. Shortly afterward he applied cantharides cerate for six hours at a point in the Head zone of a case of gastric ulcer in a chlorotic young woman, and in a case of angina pectoris in a man, 57 years of age.

There was a distinct difference between cutaneous reaction within the Head zone and at the distant test area. Reaction was more intense within the Head zone and lasted twenty-four hours longer than in the distant test area.

A third case in which Dr. Kast experimented showed no difference in reaction at two test points, but the two positive cases seem to offer definite testimony in support of my theory that the failure of repair in wounds of the abdominal wall after stomach operations is due to trophic or neurovascular disturbance associated with sensory nerve disturbance in the stomach zone of Head.

616 Madison Avenue.

1. Head: Brain, vols. xvi, xvii, xix, 1893, 1894, 1896.

CHRONIC LEAD-POISONING: REPORT OF A CASE

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RANDOLPH, N. Y.

The following case which occurred in my practice is, I believe, fairly typical, the source very plain, and readily illustrates that ignorance plays a prominent part in the causation of lead-poisoning.

The patient in my case, who had no idea that lead was poisonous, was one of sixteen girls working at the same occupation of sealing tin cans. More cases were undoubtedly averted by the recognition of this case and explanation to the others of the cause of their companion's illness.

The circulation of printed information among employees where the various preparations of lead are used would probably eliminate a certain per cent. of cases. Medical inspection, as Hamilton[1] says, would of course be ideal.

History.—E. F., aged 16, employed in a milk condensery, sealing cans, complained of cramps and vomiting and weakness

1. Hamilton, Alice: Lead-Poisoning in Illinois, THE JOURNAL A. M. A., April 29, 1911, p. 1240.

of arms and hands, which began about two months previously, the first symptoms being more or less loss of appetite, constipation and bad taste in the mouth, especially in the morning. She consulted a physician and was treated for stomach trouble but failed to get any relief and steadily grew worse. "Cramps" in the stomach began to appear and later were accompanied by vomiting. About a week before being seen by me, the patient began to notice that her hands and arms were weak and she could not handle the soldering-iron as well as usual. This weakness progressed until she became unable to dress herself; appetite was practically lost and constipation was marked.

On questioning I found that another girl "dropped" the solder, and it was not until next day that she told me about "playing with the solder," as she expressed it, by which she meant that she kept three or four of the smaller pieces in her mouth and chewed them nearly all the time during working hours. Occasionally she swallowed some of the smaller particles.

Physical Examination.—The patient was a fairly well-nourished and developed girl, although there has been a constant loss of weight, and marked pallor was present. The teeth were in fairly good condition; breath sweet and foul; tongue coated white; gums along gingival border showed marked redness and sponginess, although no blue line was present. With arms extended there was marked "wrist-drop," especially on the right. (The patient used the right hand to hold the soldering-iron.) The left hand could be extended so as to bring it in line with the forearm, but no more, and this with difficulty. No extension was possible in right hand. The thumbs of both hands could be abducted and some supination was possible, showing that there was little involvement of the extensor longus pollicis and the supinator longus. The reflexes were practically normal. The lungs were normal.

The heart showed slight enlargement of left border; no thrills or murmurs; arteries palpable; blood-pressure 130; slight tenderness over the epigastrium; otherwise the abdomen was negative. Urine was acid, specific gravity 1,016, albumin, slight trace; no sugar; occasional hyaline cast. Lead test not made.

Blood: Hemoglobin, 70 per cent.; red cells, 3,100,000; white cells, 7,000. Differential practically normal. Basic degeneration of red cells was rather marked.

Treatment.—The patient was placed in bed and given a soft diet. Free catharsis was obtained with magnesium sulphate, the bowels moving two to three times daily. Copious quantities of fluids were given by mouth. Warm baths were given daily. No other medicines or medicinal measures were used for about a week. During this time the temperature remained subnormal. The pulse averaged between 60 and 70. The paralysis of the forearms remained stationary, with very little muscular atrophy, but the extensors of the toes and peronei of both sides became involved. I could make out no paralysis of the tibialis anticus. The stomach symptoms had improved markedly, so the patient was placed on potassium iodid, 30 gm. three times a day, after meals. The improvement was marked and a steady gain followed. The legs cleared first, then the arms. Faradism, massage and an elixir of iron, arsenic and strychnin materially aided the convalesence. At the time of making this report the patient is well, has gained 15 pounds in weight and has been working in her old position nearly two months.

A few words of instruction at the beginning of her employment might have saved several months of poor health and a period of confinement.

Toleration for Nicotin.—In a paper read before the Philosophical Society of Cambridge, England (abstracted in *Nature*, March 16), after noting that one form of toleration for chemical substances is associated with their oxidation and destruction, W. E. Dixon showed that normal animal tissues have the power to destroy a small amount of nicotin, but this is considerably increased by an acquired tolerance. There is evidence, he said, to show that this is not due to chemical combination with the tissues, but that, on the contrary, it is caused by ferment action

A NEW METHOD OF DIAGNOSIS OF ACUTE INTESTINAL OBSTRUCTION BY THE STOMACH-TUBE

HARRY G. WATSON, M.A., M.D.

Attending Physician, St. Mark's Hospital; Visiting Gastroenterologist, St. Mark's Hospital Dispensary; Instructor in Medicine, New York Post-Graduate Medical School and Hospital; Assistant in Medicine, Presbyterian Hospital Dispensary

NEW YORK

When the physician is called to a patient with a history of vomiting, the vomited material has usually been thrown away, its character being unnoted. The patient cannot always vomit in the physician's presence, and if she does it may not be characteristic. These facts were recently impressed on me when called by Dr. Charles F. Hunt to see a patient. The case illustrates forcibly the value of the stomach-tube in making a diagnosis of acute intestinal obstruction.

History.—A married woman, aged 45, had been in perfect health, except that twelve years previously she had an abdominal operation for some pelvic inflammation, for which it was necessary to use drainage-tubes for several weeks, thereby causing many adhesions, which, no doubt were the cause of the present trouble. She had been in Philadelphia on a visit, had eaten a good German dinner, which she fully enjoyed, and returned Sunday evening about 9 o'clock. She felt so nauseated and distended with gas that she took two enemas with good results. But the pain in the abdomen increased and she began to vomit. Her family physician was called at 11 o'clock and gave treatment for acute indigestion. The patient was no better on Monday, was worse on Tuesday, and I saw her at 11 o'clock Wednesday morning. She was in good condition, temperature 99 F., respiration 30, pulse 100. The diagnosis was still acute indigestion. She complained of considerable pain in the abdomen, was so full of gas, as she expressed it, that she could hardly breathe. She had been vomiting at times, but none of the vomitus was saved. There had been no fecal vomiting, so far as the physician and nurse had noticed. The stomach was thought to be empty.

Examination.—I obtained a splashing sound down to the pubes. Diagnosis was acute dilatation of the stomach. I passed a stomach-tube, and to my surprise expressed over two quarts of a dark brown fluid with a fecal odor. On examination it was found to be fecal. A diagnosis was then given of acute intestinal obstruction and a surgeon advised to be called in immediately, which was done.

Operation.—Dr. Henry M. Silver saw the patient at 1 o'clock with Dr. Hunt and myself. He concurred in the diagnosis, and the patient was operated on that evening. It was found at operation that the ileum was being strangulated by a small band of adhesions about the size and shape of a mouse's tail. The intestines were very much distended, and it was difficult to relieve the constriction, owing to the many adhesions, which were due to the previous operation twelve years before.

The patient was back home again in two weeks, and feels perfectly well to-day.

I would therefore suggest, as an aid to diagnosis in these acute abdominal disorders, that the stomach-tube be passed from hour to hour, and the contents carefully examined. If they are of a dark brown color with a fecal odor, ruling out peritonitis and other acute conditions mentioned above, then a definite diagnosis of acute intestinal obstruction can be made, and immediate operation should be advised. By this means the terrible mortality would be lessened, many patients would be spared, and they would rise up and call him blessed—the physician with his stomach-tube.

78 Irving Place.

Therapeutics

ACUTE DYSENTERY

Acute dysentery is an inflammation of the large intestine, throughout either the whole or a portion of its extent. Sometimes the lower part of the small intestine is coincidently inflamed. The disease is generally caused by bacteria, two of which have been specifically isolated, a bacillus and an ameba. The disease is, therefore, more or less infectious, and may be transmitted to others. In other words, it is communicable, as is typhoid fever.

The disease is characterized by mucus, blood and purulent discharges from the rectum, accompanied by much straining, colicy pains, and tenesmus.

Predisposing causes to dysentery are hot climate, the summer and autumn seasons, filth, defective hygiene of all kinds, overcrowding in camps and prisons, combined perhaps with high temperature and fatigue, with impure and insufficient food and an impure water-supply.

More males suffer from this disease than females, probably because they are more exposed to the conditions which develop it. Bacillary dysentery especially is likely to occur in epidemics, although sporadic cases are not infrequent. When dysentery occurs sporadically it is generally more amenable to treatment.

The general symptoms of acute dysentery are mild fever, a variable pulse, at times rapid or weak from exhaustion, with a tendency to collapse turns; the movements are frequent and exhausting. The nearer the rectum the inflammation is, the more intense is the tenesmus and the more constant the desire to strain, with resulting small movements and but little relief. The higher up the inflammation is in the large intestine, the more frequent the griping and abdominal pain. The stools consist of large masses of mucus mixed with feces, and later mucus, more or less blood-streaked, perhaps without any fecal matter at all. Later, slight hemorrhages occur, depending on the amount of ulceration or erosion of the membrane, and finally pieces of membrane are passed similar to diphtheritic membrane. The tongue is coated, but generally moist, unless a large amount of fluid is lost. If the progress of the disease is unfavorable, the temperature is likely to rise higher; otherwise it remains low. If the disease long continues and the movements are frequent and profuse, a typhoid state develops.

BACILLARY DYSENTERY

The so-called bacillary dysentery may apparently be caused by different strains of bacilli which, while resembling each other in many important particulars, still are distinguished by certain differences in reaction. The most common variety of bacillus found in the stools of bacillary dysentery are distinguished as the bacillus of Shiga and the bacillus of Flexner.

The objects of treatment are to reduce the frequency of the movements, to stop hemorrhage, to soothe and heal the inflamed surfaces, to add no new irritant to the inflammation such as maldigested food, to reduce peristalsis, to give the patient as well as the intestine rest, and to support the heart. In estimating our success in accomplishing these ends, it must be remembered that the duration of a mild case is from eight to ten days, but the disease may last three weeks. Relapses are not frequent. Complications are not to be expected, and most deaths are due to prostration and collapse.

The treatment may be subdivided into general and local. By general treatment is meant rest, general care of the patient, the diet, and the care of the bowels.

Absolute rest in bed, physical and mental, should be insisted on from the beginning until convalescence is completely established. Sitting up or walking about will make a mild case serious, and if allowed too soon in convalescence may cause relapse.

Daily hot water sponging is of benefit, and if there is the slightest tendency for the patient to be cold, the extremities, and especially the feet, should be kept warm with hot water bags. The bed-clothing should be heavy enough to protect the patient from cold, and should include a woolen blanket. The same amount of fresh air and sunlight should be given these patients as is advised in typhoid fever.

The food should be of such a character as to be easily digestible and to leave but little residue to be passed on through the intestines and into the large intestine. While many times milk may be one of the most satisfactory diets, perhaps the best food consists of meat broths with egg albumin or, if the patient has but little fever, small portions of scraped, broiled beef, which leaves but little débris for the large intestine. In other words, a diet of a little easily digested meat, one or two eggs, and a small portion of milk is better than a great deal of milk alone. Also, milk frequently causes an undesirable amount of intestinal gas. Milk predigested by the use of pancreatin may obviate this tendency. If milk is desirable but is distasteful, it may be diluted with Vichy; or the milk may be given hot and salted. The milk given must be known to be pure and uncontaminated. If there is doubt, it must be pasteurized. Tea and coffee may be allowed at such times of the day as not to disturb the sleep. While large amounts of water are inadvisable and iced water should not be given, still, if much water is lost by the stools, the amount must be equaled by that which is ingested; otherwise the patient's tissues lose water, the blood-vessels lose water, the urine becomes concentrated, the skin dry, and the patient suffers from this deprivation of water, and such a condition alone may be the cause of death. Preferably, liquids or foods should be given hot, as anything cold entering the stomach is likely to start peristalsis. It may be advisable to give some thin cereal gruel once a day, at least if the disease lasts more than a week.

As soon as convalescence is established, broiled lamb chops, roast beef, and the white meat of chicken may be added to the diet. All solid food should be thoroughly masticated and the digestion may be hastened by giving a few drops of hydrochloric acid directly after meals. As convalescence progresses favorably, toast, stale bread, and boiled rice may be added to the diet, and later baked potatoes. The first fruit that is allowable is either lemon or orange juice.

Most of these patients need alcohol, not only for its beneficial effect in dilating the peripheral blood-vessels, but as a nutriment. The amount should not be large, not more than one or two teaspoonfuls once in three hours, and brandy is probably the best form in which to administer it.

Strychnin should be avoided, if possible, as tending to increase peristalsis, and it should be remembered that strychnin is not a cardiac stimulant. It is a stimulant to the nervous system, and the decision should be carefully made whether that action from strychnin is desired. This is the age of the over-use of strychnin, and such use of it should be abated.

The care of the bowels other than the local treatment of the inflammation or the treatment of the disease itself is important. A calomel purge should be administered in the beginning, followed by a saline, as Rochelle salt or something similar, this to cause a clean small intestine and a complete evacuation of the large intestine. Subsequently there is probably little necessity for administering a laxative. However, it is often well to give a dose of castor oil once in several days, not only for cleaning out the bowel and then having subsequent rest, but for its actual soothing effects. If it is deemed best not to give the full dose of calomel (and it is better to give one sufficient dose of calomel than small divided doses) the sulphate of magnesium may be used, given in doses of 4 grams (1 dram), and repeated every two hours until the movements become odorless and watery.

There can be no question of the advisability and necessity, as soon as the bowels are known to be thoroughly emptied, of stopping the movements for a certain number of hours by morphin, best given hypodermatically. The frequency of its administration is determined by its action and by the amount of pain.

Locally the condition is a surgical one. There is an inflamed, perhaps ulcerating, mucous membrane, a large sinus, which we can in a way treat satisfactorily. It should be remembered, however, that this sinus has great absorptive powers; therefore, medicaments must not be used too strong, nor should we use poisonous antiseptics. Whether high colon washings will go as far as the ileocecal valve is not now under discussion, but certainly the ascending colon and perhaps the transverse colon may be washed and cleansed of irritants. This large sinus (colon) may be irrigated with plain boiled water to which a small amount of salt has been added, as a teaspoonful to the pint, with or without a teaspoonful of boric acid, and this solution should be used either tepid or warm, if there is prostration. If but a small amount is used and there is much fever, it may be used cold. After the fecal matter and mucus have been washed away and the returned solution is clean, the colon may be treated with a weak permanganate of potash solution, as 1 to 10,000; or a 1 part to 8 of peroxid of hydrogen solution may be used. The frequency of such irrigation depends entirely on the case. Once a day in the first part of the disease is generally sufficient, and later such colon washing may be done once or twice a day, depending on the amount of benefit resulting. These washings will sometimes stop the movements of the bowels for hours, even without morphin. If followed by a hypodermatic injection of morphin rest, both of the patient and of the intestine, is prolonged.

If the disease progresses and immediate healing of the inflammation does not occur, and actual ulceration seems to have developed, as shown by the amount of bleeding, an occasional irrigation of nitrate of silver, 1 part to 1,000 (not more than one pint at any one time, viz., 0.50 gram (7½ grains) to a pint of water) is of benefit. Such an injection should be given but once in four or five days, and if the liquid does not immediately flow out of the colon a solution of salt should be immediately injected. The salt forming an insoluble sodium chlorid, will prevent any poisonous absorption of nitrate of silver.

Sometimes injections of bismuth subcarbonate solutions or suspensions, or starch water are of benefit. Certain it is that properly used colon washing will cause the number of movements to be reduced to at least one where there were three or four before.

If there is severe rectal tenesmus, small injections of one or two ounces of ice-water are of value. Or the insertion of small pieces of ice will relieve; or, of course, a suppository of morphin may be used.

If one believes that bismuth administered by the mouth will medicate the colon in any soothing way, he may give the subcarbonate of bismuth in 1 gram (15 grain) doses, at two, three, or four hour intervals. Very large doses have been recommended, but smaller doses frequently repeated are probably of as great advantage. However, as just stated, unless there is coincident small intestine inflammation, it seems perfectly valueless to give bismuth by the mouth for sedative effect in the colon.

If there is fermentation in the small intestine, and there is no congestion of the kidneys, salol, given in 0.20 gram (3 grain) doses as a dry powder or as a dry powder in a capsule, once in from four to six hours, will prevent such fermentation.

As above stated, morphin should be given in sufficient doses to give the patient more or less intestinal rest. Whether or not this morphin is combined with atropin depends on the frequency of its administration. Atropin should not be repeated so frequently as morphin may need to be. Also, if there is any idiosyncrasy to atropin it, of course, should not be repeated.

If the pain is not severe and the frequency of the movements not great, and the stomach is in good condition, instead of administering morphin hypodermatically, a small dose may be administered by the mouth, or codein or the tincture of deodorized opium may be substituted and given by the mouth.

Various external applications to the abdomen are often useful. These may consist of hot flannel applications, dry or moistened with a small amount of alcohol or turpentine. Sometimes a hot water bag, partially filled and not too heavy, is agreeable to the patient. At times, a counter-irritant action as produced by a weak mustard paste composed of three parts of flour or linseed meal with one part of mustard is useful; or a hot flaxseed poultice may give considerable relief from intestinal pain.

One would be guilty of neglect who left this subject without saying a few words in regard to the prevention of the spread of the disease. As the bacilli which cause the disease are found in the feces, it is very necessary that great care should be used in disposing of these as they come from the patient. They should be disinfected with equal, if not greater, care than the fecal discharges from typhoid patients. Any clothing, either personal or connected with the bed, which becomes contaminated with fecal discharges, should be disinfected and boiled before it is handled.

It has been found that some patients who have had dysentery retain the ability to disseminate the bacilli long after the acute symptoms have passed away, as do some patients who have passed through an attack of typhoid fever. These individuals are called dysentery carriers. It has been found that these patients are chiefly those who have ceased treatment early during convalescence and who have never completely recovered from the disease, but who have been subject to relapses at more or less frequent intervals after passing through the acute stage of the disease. This indicates the urgent necessity of keeping convalescents from dysentery under close observation and careful treatment until they have thoroughly recovered, and of impressing on the patient the necessity of taking care of himself and preventing any possible relapse.

(To be continued)

TREPHINING FOR APOPLEXY

JOHN D. MILLIGAN, M.D.
PITTSBURG

There has never been a time in the history of man when certain morbid conditions affecting both sexes were not classed as incurable. The list grows less, however, and there is every reason to believe that by careful and patient work an epoch may yet be reached when we may be able to successfully attack many, if not all, of these affections with reasonable hope of retrieving the sufferer and restoring him to the normal.

Until recently, among these conditions much was left to medicine alone, but the list is growing less by the intervention of the art of surgery, which has reduced the list very materially.

Prominent among those of frequent occurrence is hematocele of the brain (apoplexy) due to rupture of Charcot's "artery of cerebral hemorrhage," accompanied by hemiplegia, aphasia, etc., producing pressure symptoms rather than destruction of brain tissue. We know that if we can remove this morbid focus, we shall relieve the pressure symptoms, and restore the condition to the normal.

Shall we sit idly by and trust to have absorption take place with the result that a brain scar or an unabsorbed brain cyst may remain, and the patient have hemiplegia and aphasia for life? Were this a case of intestinal perforation or rupture in tubal pregnancy, or injury to the heart itself by stab or other wound, the promptness of the surgeon's activity would decide the fate of the patient. And with the now established success of the various operations which even in our short lives have become standardized, shall we stop and debate the question as to whether we shall trephine and remove the clot? Reasoning that in the hematoma of the brain the first seventy-two hours is likely to decide the fate of the apoplectic, granting that he survives the shock, the patient will be found generally in better condition for operation than the patient in the usual case of traumatism of the head. The clot has already become firm and the serum has fairly well separated; the likelihood of further hemorrhages is lessened; the ruptured vessel has been well plugged, and the clot will not be detached without careless handling. Each day thereafter for a limited time, say ten days from the attack, it is still more favorable, and the surgeon can elect the time for operation. As the technic improves, and as the proper time to operate becomes more definitely known, the percentage of fatal cases will become less.

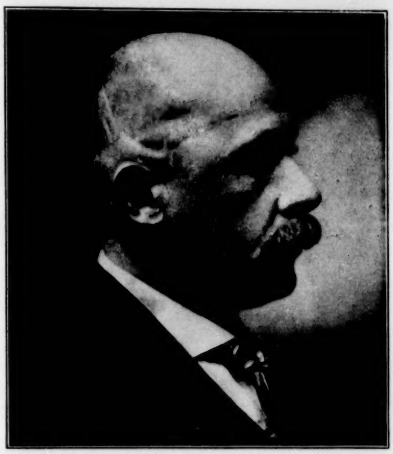
CASE REPORT

History.—E. N. S., freight conductor, aged 42, right-handed, was in the act of stepping from the step of the engine to the ground at Ellwood Junction, May 12, 1909, about 12:50 p. m., when he fell in a heap and rolled over. As the tender passed, it was believed that he was struck by the axle box on the right temple. He was picked up and found to be unconscious, and was at once taken to the Beaver Valley General Hospital, Rochester, Pa., and came under the care of Dr. J. S. Louthan and Dr. R. M. Patterson, of Beaver Falls, Pa. This was 3 p. m., May 12, 1909.

Examination.—The following symptoms were present: The patient was semicomatose, could be roused with an effort, but was incoherent, with aphasia and hemiplegia of the left side present. A slight redness, not even sufficient to be classed as a contusion, was found on the scalp above the ear on the right side and no other marks of injury; sphincters were relaxed, and urine voided unconsciously; stupor increased, with stertorous breathing; following along for three or four days, there was some muttering delirium. The patient made many attempts to get up, or rather to roll out of bed, but was restrained easily. The Babinski sign was present in the left foot; vision affected; hemianopsia present. No fracture of the skull could be found. I saw him with the other physicians May 16, 1909.

Eleven days after the patient was admitted, May 23, 1909, no improvement of any importance having occurred, a careful review and consultation was held and the consensus of opinion was, that there was either a hematocele of the brain (apoplexy) or a clot from the middle meningeal artery; but all agreed that the lesion was in the motor area and that the Rolandic fissure was the site of the lesion. This was concurred in by Drs. J. H. Wilson, Beaver, Pa., J. S. Louthan and R. M. Patterson, Beaver Falls, Pa. It was decided to operate.

Operation.—The operation was done May 23, 1909. The skull was opened with a trephine and careful inspection of the dura was made without finding anything. The wound was then enlarged and the fissure of Rolando was found to present beneath the membranes a slight bulging, which on opening through the membranes, poured out about ½ ounce of clear serous fluid. Further investigation disclosed a small thread clot. The surrounding portion of the brain was carefully pushed aside with a probe and the handle of a scalpel and a pear-shaped clot was removed and the cavity wiped out carefully. At about the location of Charcot's "artery of cerebral hemorrhage" was found a small firm clot adhering to the side of the cavity, which was carefully left. A small wick of iodoform gauze was placed as a drain and the wound carefully closed and antiseptically dressed. The drain was removed on the fourth day and the wound healed without any symptoms.



E. N. S., trephined for apoplexy; from photograph taken March 23, 1911, twenty-two months after the operation and sixteen months after resuming his duties as a freight conductor.

Result.—After the operation there was slow improvement for the first week and then improvement was more rapid, the patient regaining consciousness June 6, 1909, twenty-five days after the accident and fourteen days after trephining. Paralysis was first to disappear in the left leg, then the arm. The Babinski sign was not observed after the end of the first week. Aphasia slowly disappeared by the time he left the hospital.

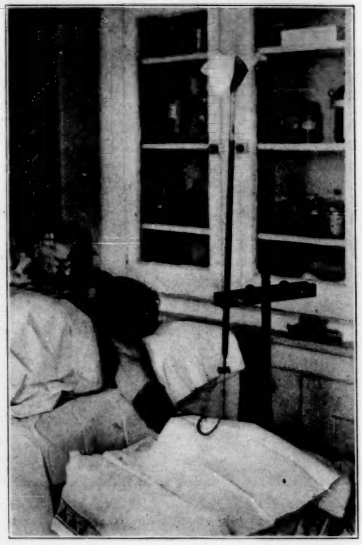
The hemianopsia was present for some time, and after examination Dr. Robeson reported that the apparent atrophy due to pressure was likely to remain for a long time. But improvement was steady and at the end of six months the patient had been restored to perfect vision. He was in the hospital fifty-nine days and went back to work Nov. 23, 1909, six

months after the operation, and has been continuously at work ever since. He had no recollection of anything from 10 p. m., May 11, 1909, which was about fifteen hours before the accident, until June 6, 1909, which was twenty-six days.

A SIMPLE TECHNIC FOR SALVARSAN INJECTION *

MATHEW A. REASONER, M.D.
Captain, Medical Corps, U. S. Army, Vancouver Barracks, Wash.

The following technic for preparing and injecting salvarsan has been followed to date (April 25) in twenty-seven intramuscular and forty-four intravenous injections in forty-seven cases, mostly in the military service. There will be required two, or better three, 50-c.c. glass cock burettes and stand, 10-c.c. glass syringe for intramuscular use, and large and small flasks as indicated. The other accessories will be found in the well-equipped office or dressing-room or may be improvised.



Position of patient in intravenous injection.

The burettes are wrapped in gauze and sterilized in the kitchen oven, keeping a gauze stopper in the open end. The other articles that require it are sterilized according to the means at hand. The sodium hydrate solution should not be heated but prepared under aseptic precautions. A 50-gm. specific gravity flask with solid glass stopper and containing glass beads is used for dissolving and titrating as a mortar or other open vessel is more or less of an invitation to infection. Hot water should not be used in dissolving the powder, as it is an unstable compound which depends for its efficiency on this unstable formula and it is certainly not logical to provoke chemical action by applying heat. Dissolving in water at room temperature, the entire procedure of an injection need not take over one-half hour.

The alkaline solution is preferred for both injections; it is dissolved in 10 c.c. sterile water with constant rotary motion of flask and titrated slowly with normal sodium hydroxid solution, using same motion, carrying it just beyond the faint orange red tint to the point at which only one or two minute flocculi remain. No acid is used nor has litmus or phenolphthalein been found necessary since the first few times. As the sodium hydrate solution is not stable, dependence cannot always be placed on using a definite quantity of this solution. The titrated solution is diluted with sterile normal salt solution (physiologic) to 20 c.c. for intramuscular injection and about 250 c.c. for intravenous use. Should the latter solution not remain clear, a few more drops of sodium hydrate solution will be required.

Capt. R. H. Pierson, Medical Corps, U. S. A., has most kindly assisted in the intravenous injections, using his method, which I have not seen otherwise described. The patient is placed as shown in the illustration; tincture of iodin is applied to the flexor surface of the forearm; a tourniquet is placed above the elbow and with an ethyl chlorid spray the selected vein is frozen to the skin (better one away from the exact bend of the elbow), when no difficulty or pain is ordinarily experienced in passing a 3-inch 17-gauge needle directly into the vein. Without freezing the vein may evade the needle. Blood flows from the needle when the vein is entered and with the salvarsan or salt solution flowing gently from the small rubber catheter attached to the burette, the connection is established, the tourniquet is removed and the warmed solution is allowed to enter in from five to ten minutes. The burette should have been previously warmed.

Cutting down on the vein is a more painful and tedious process, the point of incision remains tender longer and following the manipulation and ligation it would seem that there is more possibility for untoward results. The solution should not be brought into contact with the subcutaneous tissues or healing will be delayed. Following this injection the patient is caused to lie down for a few hours and is returned to duty the following day. In this manner 0.5 to 0.6 gm. doses have been given with no ill effect throughout this entire series. Reactions may be expected in a certain number, and consist of malaise and even chills, fever, vomiting or diarrhea but will pass away in four or five hours. Others show no after-effects. Urticaria has appeared two times during injection and lasted two hours. The blood-pressure should not be high from recent exercise, and with marked arteriosclerosis some attention should be previously paid the matter of blood-pressure.

The intramuscular injections should be made slowly and with all aseptic precautions in the upper and outer parts of both gluteal regions. The reaction appears later and may last longer. The average time in bed for twenty-four patients was five and one-half days. It would be somewhat less in civil life. The patient should stay in bed until the local reaction has subsided. In the seventy-one injections to date only one untoward result has occurred and that among the intramuscular series. A woman went to her home and on the third day rode a long distance in a wagon over rough roads and bruised the buttocks. One abscess developed, which was very slow in healing.

It is not believed that either of the two methods should be used to the exclusion of the other and both should frequently be used on the same person. The Wassermann reaction will indicate the necessity for repeated injections.

* Portion of paper delivered before Portland City and County Medical Society, April 5, 1911, Portland, Ore.

V. 5
1911

THE HOME OF THE ASSOCIATION

A BRIEF HISTORY OF THE MATERIAL PROGRESS OF THE ASSOCIATION AND ITS PLANT

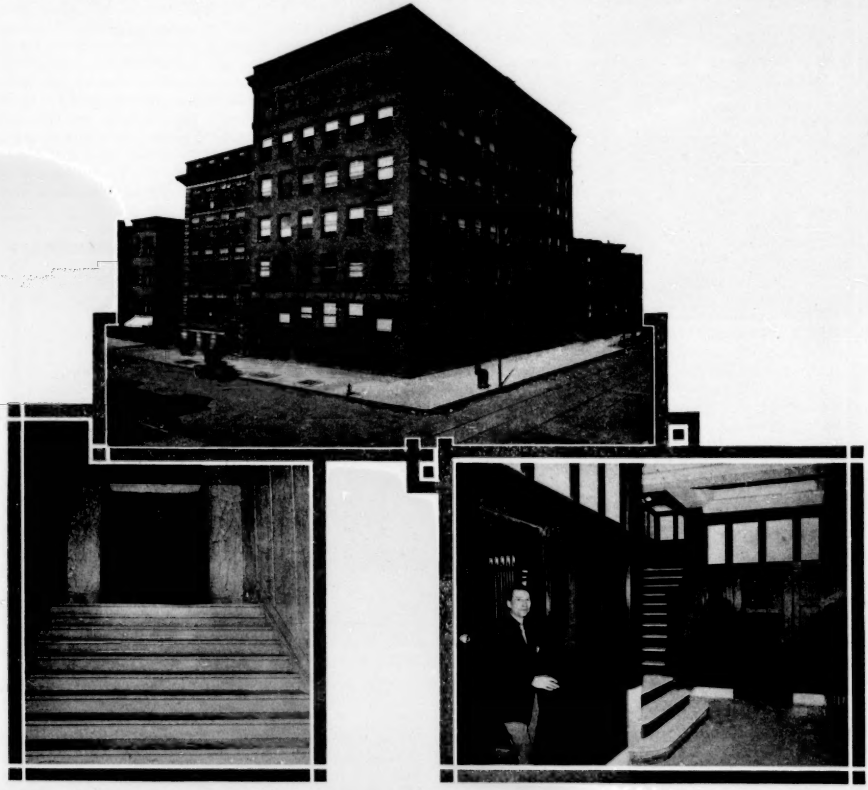


Fig. 1.—View of the Association buildings. A comparison of the new and old buildings will give a slight indication of the growth of the work of the Association. Fig. 2.—The vestibule with the marble stairway and wainscoting. Fig. 3.—The main hall on the first floor, showing the passenger elevator, the stairway and the door to the printing department. Through this door all employees of the mechanical department enter; access is had through it to the composing-room on the second floor, to the bindery on the first floor and to the pressroom in the basement. The mechanical department is thus completely separated from the business and editorial departments.

CHAPTER IV.—THE EQUIPMENT

The story of "The Home of the Association," three chapters of which were printed last fall, was discontinued on account of delay in the completion of the new building at the time set. The building was practically completed and ready for occupancy in January last, when the commencement of the transfer of the plant was made; this transfer was completed in February.

In the last article, published Nov. 12, 1910, the important structural features of the new building were described, although some of the features had not been mentioned.

The building, as completed, is fire-proof, and sufficiently strong to support practically any weight that may be placed on any floor. Fire protection for the contents is provided by standpipes running from the basement to the roof, with connections on every floor, to which is kept attached fire hose sufficient to reach any part of the floor, ready for instant use by anyone. There are both front and back stairs, each absolutely fireproof. The front stairway is made of marble, slate and steel; the back stairway of steel and concrete. The doors and windows leading from both front and back-stairways are of wire-glass and metal, no wood whatever being used.

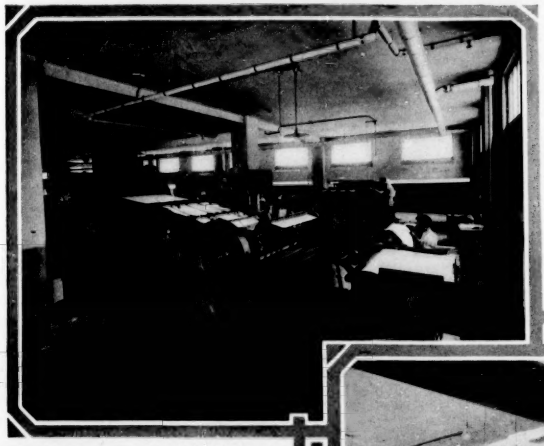


Fig. 4.—A view of one corner of the pressroom, showing flat-bed perfecting press in the foreground.

One enters the building (Fig. 1) through a terra-cotta doorway in the northwest corner of the Dearborn avenue front, and finds a beautiful white-marble vestibule and stairway (Fig. 2). From this one enters the main hallway (Fig. 3) in which is the passenger elevator and from which starts the main stairway to the floors above.

In this main hall, also, is the "employees' entrance" leading into another hall from which entrance is made to the bindery and mailing room on the first floor, to the composing and stereotyping rooms on the second floor, and to the press-room in the basement. In this way the mechanical or printing department is completely separated from the office part of the building.

Basement

PRESSROOM

The pressroom is the largest room in the building, since it includes space underneath the sidewalk on the west and south. The floor area of this room, exclusive of the boiler- and coal-rooms, is 80 by 140 feet. The ceiling is 14 feet high. Mr. Frank Counihan is in

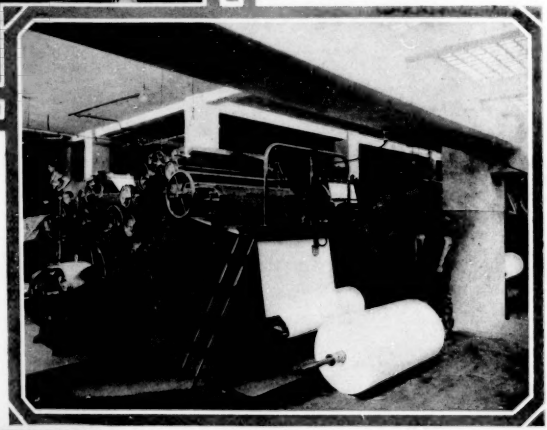


Fig. 6.—One of the two magazine cylinder presses; each will print and fold 5,000 thirty-two-page signatures an hour, or 10,000 sixteen-page signatures.

Fig. 5.—View of the east end of the basement, showing the row of cylinder presses for reprint and pamphlet work.

charge. The room is splendidly lighted; in fact, it is the best-lighted pressroom in the city, if not in the country. In this pressroom there are eight large presses. Two of these are rotary perfecting presses (Fig. 6), and one is a large flat-bed perfecting press (Fig. 4), each of which prints thirty-two JOURNAL-size pages at a time. In addition there are five ordinary cylinder presses (Fig. 5). The flat-bed perfecting press, mentioned above, was the first large press bought and was considered, at the time—ten years ago—as being quite an advance in our equipment. Attached to it is an automatic feeder; it will print from 1,500 to 1,800 thirty-two-page signatures (that is, sheets which will be folded to make that number of pages) an hour.

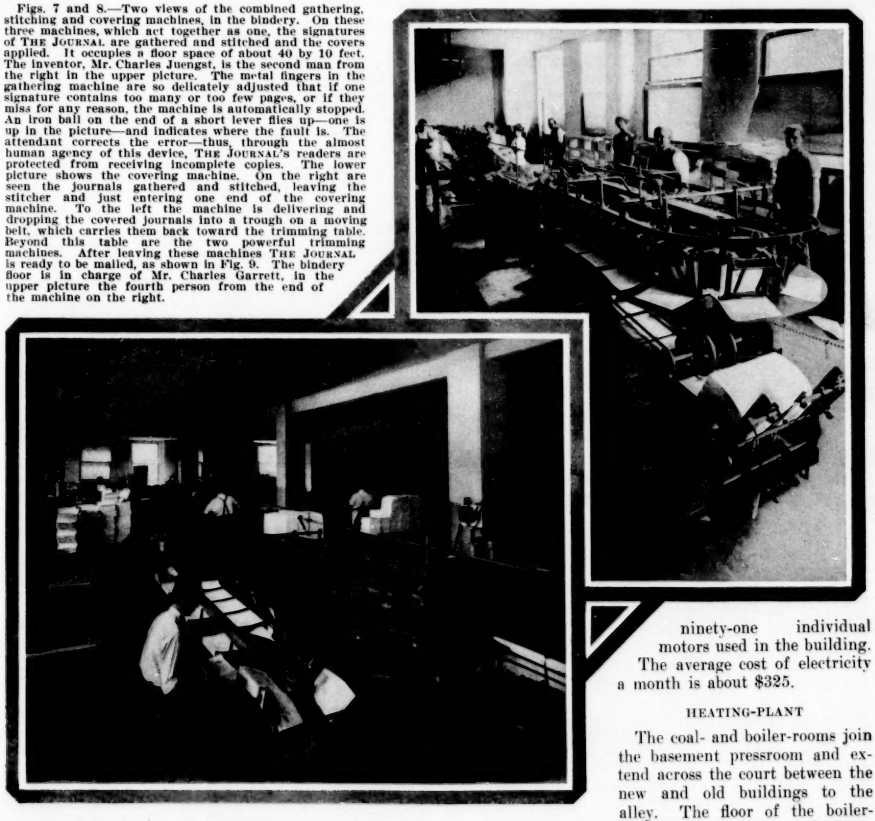
The two most important additions to the pressroom are the rotary presses. One of these was bought about five years ago. The other has just been installed. Each of these presses prints and folds 5,000 thirty-two-page signatures an hour, or 10,000 sixteen-page signatures an hour. The new rotary press is the most perfect of its kind. Formerly, half-tones and fine illustrations had to be printed on flat-bed presses; now this kind of work can be done on the new rotary press.

The sizes of the sheets that can be printed by the five cylinder presses vary from 26 by 41 inches to 37 by 53 inches. Each of these will print from 1,800 to 2,000 impressions an hour. They are hand-fed.

In addition to these presses there are three platen presses on the second floor (Fig. 18). On these are printed the smaller pieces of work, such as stationery, record cards, small circulars, small reprints, the covers of reprints and pamphlets, etc.

In one corner of the pressroom is an electroplating plant. Here the stereotyped plates, after they come from the stereotyping room, are plated with nickel. The stereotyped plates have a soft face and are good for only about 20,000 impressions; by nickel-plating them, the type-face is hardened so that 100,000 impressions might be made from them.

In the basement is the storage-room for paper. To print THE JOURNAL and the various other publications, nearly twenty-five tons of paper are used each week, the weekly issue of THE JOURNAL alone averaging about twenty-two tons. Special numbers require much more; the Los Angeles number, for instance, required over forty-two tons of paper. Of course it is necessary to be prepared for strikes, railroad wrecks, and other troubles by keeping in stock a fairly good supply of paper; this requires considerable storage room. The amount of paper kept in stock varies between fifty and one hundred tons.



Figs. 7 and 8.—Two views of the combined gathering, stitching and covering machines, in the bindery. On these three machines, which act together as one, the signatures of THE JOURNAL are gathered and stitched and the covers applied. It occupies a floor space of about 40 by 10 feet. The inventor, Mr. Charles Juengst, is the second man from the right in the upper picture. The metal fingers in the gathering machine are so delicately adjusted that if one signature contains too many or too few pages, or if they miss for any reason, the machine is automatically stopped. An iron ball on the end of a short lever flies up—one is up in the picture—and indicates where the fault is. The attendant corrects the error—thus, through the almost human agency of this device, THE JOURNAL'S readers are protected from receiving incomplete copies. The lower picture shows the covering machine. On the right are seen the journals gathered and stitched, leaving the stitcher and just entering one end of the covering machine. To the left the machine is delivering and dropping the covered journals into a trough on a moving belt, which carries them back toward the trimming table. Beyond this table are the two powerful trimming machines. After leaving these machines THE JOURNAL is ready to be mailed, as shown in Fig. 9. The bindery floor is in charge of Mr. Charles Garrett, in the upper picture the fourth person from the end of the machine on the right.

ELECTRIC POWER

Electric power is used to run the machinery and is supplied by a public lighting-plant. Each press and machine and elevator has its own motor. There are ninety-one individual motors used in the building. The average cost of electricity a month is about $325.

HEATING-PLANT

The coal- and boiler-rooms join the basement pressroom and extend across the court between the new and old buildings to the alley. The floor of the boiler-room is depressed ten feet below the level of the basement floor and contains two sixteen-foot high-pressure tubular boilers with a capacity sufficient for heating both the new and old buildings. In addition there is a smaller high-pressure boiler for supplying live steam to the stereotyping and other rooms. In this sub-basement are also the water-filtering and cooling system, which has recently been installed, the boiler-feeding pumps, the summer heating-plant, etc. The coal-bins are ample to accommodate 175 tons of coal, and are in close proximity to the battery of boilers.

First Floor

BINDERY AND MAILING ROOM

The bindery and mailing-room occupy the first floor. The machinery in this room (Figs. 7 to 11) will show that the Association is well equipped for doing this branch of the work. Among the interesting pieces of machinery is a group of three machines (Figs. 7 and 8) connected and working together as one, on which the "forms" making THE JOURNAL are gathered together into one book, stitched and covered. This machine includes the gathering-, the stitching- and the covering-machines. The gathering-machine is a long one, on which the various printed signatures of the publication

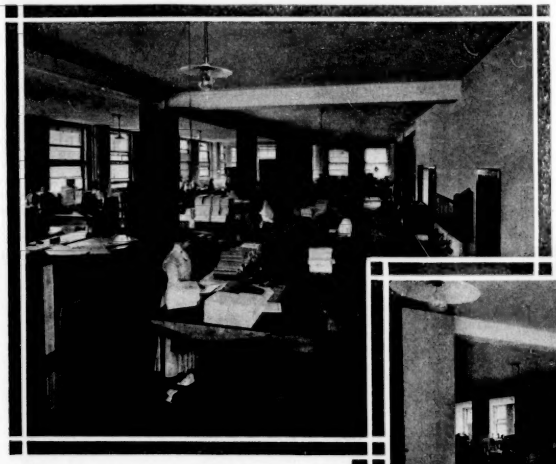


Fig. 9.—The mailing division of the bindery. Copies of THE JOURNAL are being wrapped and placed in mail sacks. About 900 mail sacks are used each week.

to be bound are placed in consecutive piles. When the machine is set in operation a device which acts very similarly to the human thumb and finger reaches out and grasps a signature from the bottom of a pile, drops it onto a moving belt and, as it passes on, the succeeding sections are dropped on it, each in its proper place; when the end of the machine is reached all of the sections of THE JOURNAL have been gathered together; each group passes on directly to the stitching-machine, which inserts the three wire staples. Without stopping in its forward movement, THE JOURNAL, now stitched, but coverless, travels on to the covering-machine, which applies the glue to the back, presses on the cover, counts and delivers it (Figs. 7 and 8), complete except for trimming, on a rack, from which it is removed by hand and placed on the trimming-table. This combined machine will gather, stitch and cover 4,000 books an hour, equaling the work of between forty and fifty people. This combined machine was the invention of one man. He first developed the gathering-machine, then the stitching-machine, and combined the two. This gathering- and stitching-machine was bought by the Association about five years ago and was one of the first made. The covering-machine was only recently invented and has just been obtained.

The only thing remaining to complete THE JOURNAL for mailing (Fig. 9) is the trimming of the edges.

Among the other machines in this room are two power paper cutters (in the background, Fig. 7), four folding-machines (Fig. 10) each having a capacity of 2,500 sheets an hour, one "smashing"-machine, two wire stitching-machines, one thread sewing-machine (Fig. 10), and proof-presses on which are printed the nine hundred galleys constituting the mailing-lists of THE JOURNAL, the *Archives of Internal Medicine* and the *American Journal of Diseases of Children*. An average of nine hundred sacks of mail are shipped from this room each week.

Second Floor

The main portion of the second floor (Figs. 12 to 17) is occupied by the composing-room with its advertising, job, book and journal departments, with the linotype machines, job presses and the cases for hand setting, proof-presses, etc.

In the southwest corner of this floor are three well-lighted rooms for the use of the six proof-readers and copy-

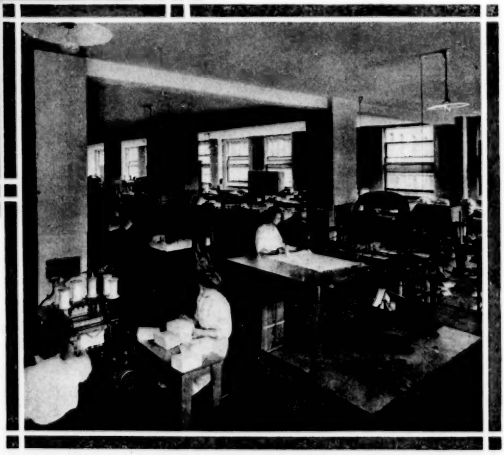


Fig. 10.—Another view of the bindery. In the immediate foreground at the left is a sewing-machine which, when the picture was taken, was sewing together the Official Program for the Los Angeles session. To the right are the folding-machines which fold the sheets that are delivered from some of the presses. Some of the folding-machines are automatically fed, a process that always interests visitors.

holders. In the southeast corner is the stereotyping room (Fig. 12) where the type, after it is put in forms, is used to cast stereotype plates. Among the machines in this room are melting-kettles, flat and circular casting-boxes, various saws, bevelers, planers, finishing- and trimming-machines; in short, a thoroughly up-to-date, perfect stereotyping plant.

There are six linotype machines, but as there are certain kinds of typesetting that cannot be set on these machines, this is done in the old-fashioned manner by

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hand. There are twelve make-up stones on which the type is assembled and the pages made up into the forms. Three job presses occupy an alcove (Fig. 18) in this room as stated elsewhere.

With the periodicals, the reprints, the various books and other publications printed by the American Medical Association, this is a very busy department and already is crowded for room.

Third Floor

Stepping from the elevator on the third floor, the visitor enters the reception room in which he finds chairs and tables, a telephone, writing materials, directories, copies of the publications of the Association, and some current magazines. Here, at a convenient window, one may pay dues and subscriptions, or purchase publications and transact other business with the cashier's department. At another window is the telephone operator and information clerk, who answers questions, calls members of the editorial staff to the reception room to greet visitors, makes appointments for interviews, etc.

Fig. 11.—General view of the bindery.

ing typewriter, an electrically operated adding machine, a burglar-proof safe, and a commodious fire-proof vault filled with filing cases and other conveniences.

The membership department maintains a card index of the membership of the Association, and closely associated with it is the subscription department. Here are card index files of the subscribers to THE JOURNAL, the *Archives of Internal Medicine* and the *American Journal of Diseases of Children;* also mailing-lists of the entire circulation of the various publications are kept in this department and are gone over each week, additions and eliminations being made.

Advertising copy is also prepared and edited in this room. There are the usual cloak and toilet-rooms, and a stationery storage-room, steel lockers for the clerks, desks, typewriting machines, etc. The telephone switchboard connects each room in the building with the city and long-distance systems.

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

On this floor is the room of the Council on Health and Public Instruction. This Council has charge of work that, until 1910, was divided among several standing and special committees. Here is preserved all material on questions of hygiene and sanitary science and on all questions regarding the relations of the profession to the public and to legislation. Pamphlets and reprints of interest to the public are prepared and sent out under the direction of this Council. State and federal laws and court decisions regarding public health matters, reports of state boards of

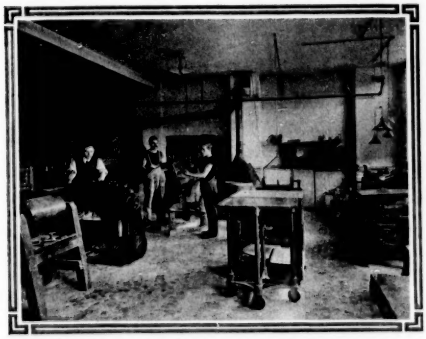


Fig. 12.—A portion of the stereotyping-room with its various machines for making the plates from which THE JOURNAL is printed.

Fig. 13.—A view of one end of the composing-room showing three of the six linotype machines. The three others are just behind these. Some of these machines run both day and night, according to the press of work at various seasons.

EDITORIAL AND BUSINESS OFFICES

Adjoining the reception room is a suite of editorial offices (Fig. 19) and the office of the manager of the advertising and subscription department (Fig. 28). The main part of this floor is occupied by the subscription, membership, advertising and accounting departments (Figs. 24, 25, 28-31). The last occupies a large space, divided off by glass partitions. There is a special bill-

health, bulletins and pamphlets issued by state boards, etc., are secured and preserved for reference. A press bureau sends out bulletins on medical and scientific questions to newspapers and magazines. This Council is preparing a series of public health pamphlets and it hopes in the near future to be able to supply lists of speakers, stereopticon slides, moving-picture exhibits and other means of public health education, for the use of societies.

Fourth Floor

On the fourth floor are the Council on Medical Education and its subsidiary directory and biographic departments, the exchange and abstract room, the manuscript-editing room, the propaganda department and the office of the assistant to the secretary.

EDUCATIONAL DEPARTMENT

Licensed Physicians.—During the last seven years reports have been regularly received from the various licensing boards throughout the country, on blanks prepared for the purpose. These reports are bound in a book at the end of each year so that at the present time there are seven books, each containing the official data regarding physicians registered by all the licensing boards of the country. In addition to these files a complete list of those previously licensed was obtained from each state. Thus here may be found a fairly complete list containing the record of every man licensed in every state of the Union, so that in the case of the destruction of the records of any state by fire or otherwise, the American Medical Association would be able to supply the loss.

Fig. 14.—View of main portion of the composing-room, with the linotype machines in the rear. The make-up stones contain piles of type pages, and others made up into page forms, one of which is just being "locked up."

Medical College Graduates.—The Council has also received each year reports on those who have graduated from the various medical colleges of the country. These reports are also on blanks furnished by the Council, and are kept in book form, one book for each college year. In addition to these reports the Council obtained complete lists of their alumni from all the existing colleges, and also from the majority of the colleges which have long since been extinct, comprising, therefore, fairly complete files of the graduates of the medical colleges of the country. The Council thus has an official record regarding all graduates of existing medical colleges and of the majority of the graduates of colleges long since extinct; in fact, from these data the Council is in a position to verify the credentials of practically every college graduate, in case the records of his alma mater should be destroyed by fire or otherwise.

Fig. 15.—A view of the composing-room, showing several of the twelve make-up stones in this room, and that portion of the room containing the hand-set cases.

The information contained in these files has been secured from official sources in every instance and some of it at considerable expense. For instance, in order to obtain a complete list of those licensed to practice medicine in Pennsylvania, it was necessary to send to the prothonotary's office of every county in the state and have the records copied. The fact that a large majority of the colleges organized during the last twenty-five years are now extinct proves the importance of these permanent records kept by the Council. Medical schools come and go, and when they go, very often their records go too.

The Biographic Card Index.—In addition to the official data regarding licensed physicians and medical college graduates, the Association now has an alphabetically arranged, biographic card index of practically all the physicians in the United States. The information contained on these cards is based on official information

so far as the graduation and licensing are concerned. The other information has been supplied by the physician himself. The information on these cards is constantly becoming more and more complete, since there is added to them day by day any information relating to the individual which may be received. These cards show not only where a physician may have been located in the past, provided he has had more than one location, but also other information of importance to the individual physician, as well as to the profession at large.

Of course, the initial expense of establishing these files of valuable data has been rather heavy; but to maintain them will be little more than a matter of ordinary department routine. Each year a card is prepared for every new graduate and the information regarding him is added to from year to year. In like manner, it becomes easy to add the data regarding licensing, etc.

This year the Council on Medical Education is securing the names of medical students from all the colleges which will cooperate—about a hundred at the present time. Hence, the physician hereafter will have a card before he graduates, and it is hoped that in the near future the record of every physician may be kept in this biographic index from the time he enters the freshman year. A record such as this is kept of every medical student in nearly all European countries.

THE AMERICAN MEDICAL DIRECTORY

The information referred to above is entirely independent of, but at the same time forms the basis for, the information published in the American Medical Directory. For the directory an additional card index has been prepared. This card index, however, is arranged geographically. With these cards changes of address are easily made by simply removing a physician's card from one town and placing it under the town to which he removes. These cards constitute the copy for each subsequent edition of the directory. It is always ready and can be sent to the compositors to be put in type on a moment's notice.

Fig. 18.—An alcove in the composing-room showing the three platen presses for printing stationery and other small jobs.

Fig. 17.—A section of the composing-room showing—at the window of his room—the superintendent of the mechanical departments, Mr. Edward D. Harris, and—at the desk—the foreman of the composing-room, Mr. George J. Harris. Looking beyond, toward the west, one sees part of the make-up stones, that part of the room containing the hand-set cases.

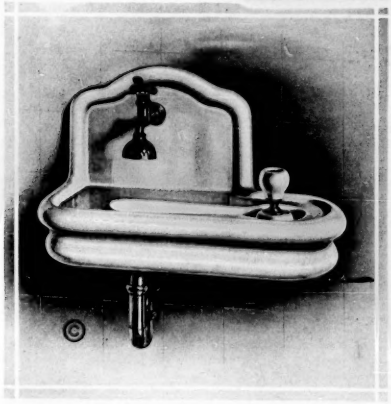


Fig. 16.—The American Medical Association special combination drinking fountain, on each floor. This fountain is specially designed for the American Medical Association. At the right is the sanitary bubbling cup, which flows when the lever at the right is pressed down; at the left is the ordinary faucet. The water supplying these fountains is filtered and cooled by the ammonia process.

MEDICAL COLLEGES

A large alcove in the Educational Department is devoted to information regarding the medical institutions of the world. This consists of extensive files comprising the announcements and catalogues of medical colleges in the United States and of nearly all of the medical teaching institutions of the Old World. These files are constantly being added to, not only as new announcements are issued, but also by back numbers of the announcements of medical schools, both existing and extinct. Here also are extensive files of educational reports, medical council reports and other pamphlets bearing on medical education. There are also files of catalogues, reports and pamphlets giving information in regard to secondary schools and colleges of liberal arts.

A CLEARING-HOUSE OF MEDICAL EDUCATION

Thus, the Council on Medical Education is carrying out one of the chief functions for which it was created, namely, the

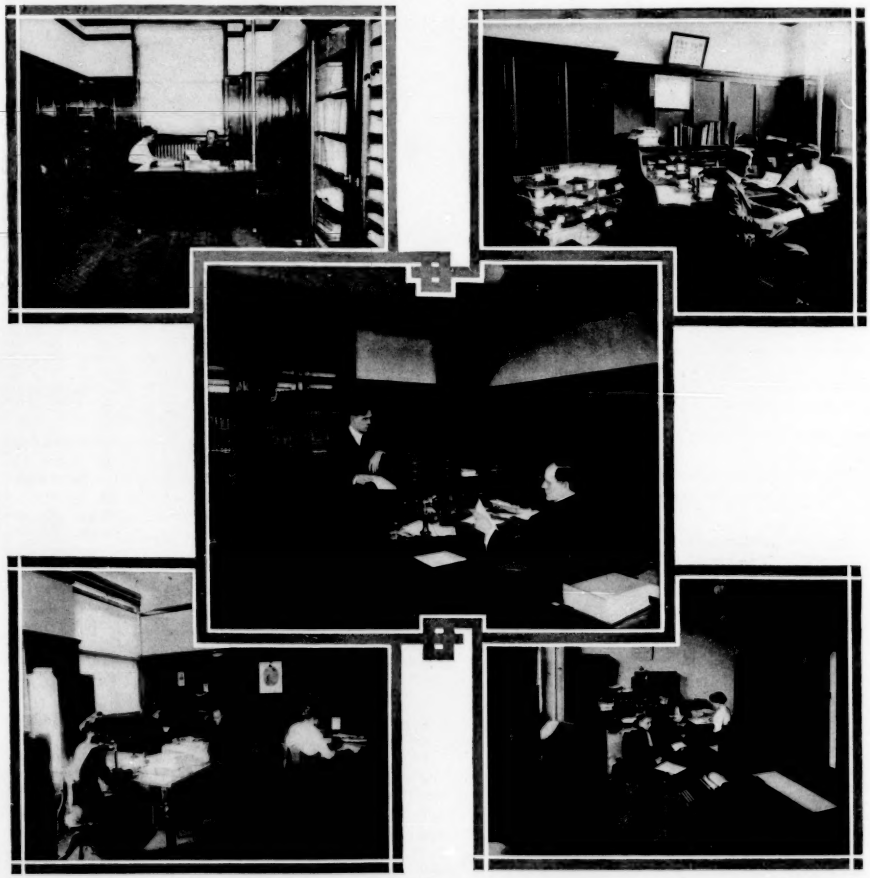
establishment of a clearing-house for all matters pertaining to medical education. Probably nowhere else can be found such a vast amount of data relating to medical education in all parts of the world.

EXCHANGE AND ABSTRACT DEPARTMENT

A prominent and valuable feature of THE JOURNAL is that department devoted to Current Medical Literature, in which is published, each week, abstracts of the leading articles of interest appearing in the principal medical journals of the world. A large room is devoted to this and here are files for the various medical journals. There are received, approximately, three hundred and thirty-five different journals, each one of which has a special compartment in the file as will be seen by the illustration (Fig. 34). These files are numbered crosswise and lettered up and down. A large card contains the list of journals with the letter and number of reference which makes it possible for one to go direct to the periodical wanted.

MANUSCRIPT-EDITING ROOM

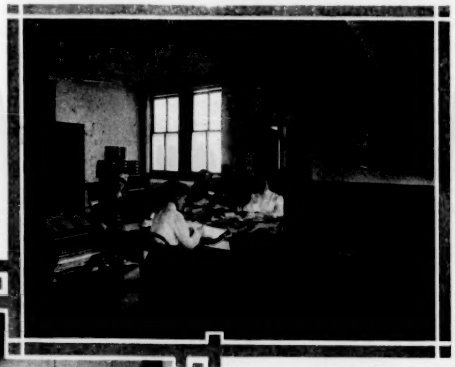
Adjoining the exchange room is a large room (Fig. 32) in which all manuscript is edited. Into this room



Figs. 19-23.—A group of editorial offices. In the center is the office of the editor and general manager. The upper left view shows the room of Dr. Frederick R. Green, secretary of the Council on Health and Public Instruction. The upper right view is of the room of Dr. E. E. Hyde, the assistant to the editor. At the right below is the room of the department which investigates nostrums and quackery, in charge of Dr. A. J. Cramp. This room contains the "fake" files and the testimonial file, which together form the most complete collection of information concerning proprietary drugs, "patent medicines," "fake" cures, etc., to be found anywhere. The other view is a stenographers' room connected with the editorial suite; here are the stenographers of the editors and of the advertising manager, and here are kept card indexes of all articles received, accepted or published in all publications of the Association. On several of the pictures on this page will be noted a considerable number of baskets for correspondence. These baskets are emptied every hour by a clerk who carries the contents to the designated departments on the various floors of the building, this facilitating prompt action on letters, proofs, etc.

go all the manuscripts and material for all the publications of the Association, to be edited for the printer.

The subject of editing manuscript is too large a one to receive full treatment here. Few readers have any idea of the amount of work necessary to prepare for the printer the manuscript of even careful writers. Elaborate schemes of subheadings have to be translated into typography; tables have to be rearranged to make them practicable for the compositor and intelligible to the reader; the varying styles of individual writers have to be unified in conformity with the style of the Association press. (THE JOURNAL publishes a pamphlet* in which are explained some of the principles of style followed here.) The manuscript-editing room, of course, is supplied with dictionaries of English and other languages, books on style, diction and grammar, works of reference for various technical subjects, files of data, bound volumes of the various publications of the Association, a set of the Index-Catalogue of the Library of the Surgeon-General's Office, etc.



Figs. 24 and 25.—Two views of the accounting department. The lower view shows the cashier's office with Mr. E. C. Shelly, cashier, seated at his desk, and above is another view showing the mail opening department with the billing machines and the electric adding machine, etc. All of the mail is opened by one bonded clerk. It amounts to something like 750 pieces a day at ordinary times, and from 1,000 to 2,000 pieces of mail a day at busy seasons. This applies to first class mail only. The exchanges, marked copies, newspapers, books, etc., come in sacks and are opened in another department. There are about 45 feet of high desking supplied with cupboards and drawers surrounding three sides of the room. The open door gives a view of a store room. In this room is kept the supply of pamphlets, reprints and other publications of the Association, and daily orders are filled from this stock. There is a large vault which is not shown in the pictures which contains files with the canceled voucher checks, ledgers and other records of the accounting department. There is also a fireproof and burglar-proof safe.

NEWS DEPARTMENT

In the main room on this floor is the news department. The "Medical News" feature of THE JOURNAL is not the least important and to glean the news for each weekly issue is quite a task. The sources of supply are personal communications, letters from occasional and regular correspondents and press clippings. In this department are kept, in envelopes, alphabetically, biographic records of physicians,

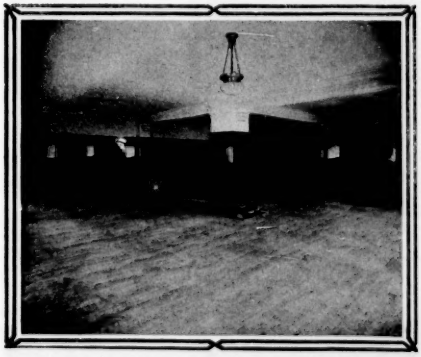


Fig. 26.—A view of the uncompleted library. The cases at the side of the room are shown, but the metal stacks are not yet in place.

Fig. 27.—A committee room on the fifth floor where are held meetings of the Board of Trustees and of the Council on Pharmacy and Chemistry, and of other committees. Heads of departments are occasionally called together here to discuss some question of importance to all.

* A copy will be sent on receipt of 10 cents.

each bearing an individual's name. Into these envelopes are placed clippings and biographic notes. On the appointment of a physician to some important office, or in case of his death, the information contained in the envelopes is valuable in writing the appropriate notices.

ASSISTANT TO THE SECRETARY

The assistant to the secretary occupies the northwest corner of the fourth floor. In this room is kept information regarding the personnel of the organization. This information includes lists of members of all the component county societies of the country, kept by the card index method, arranged by counties and states.

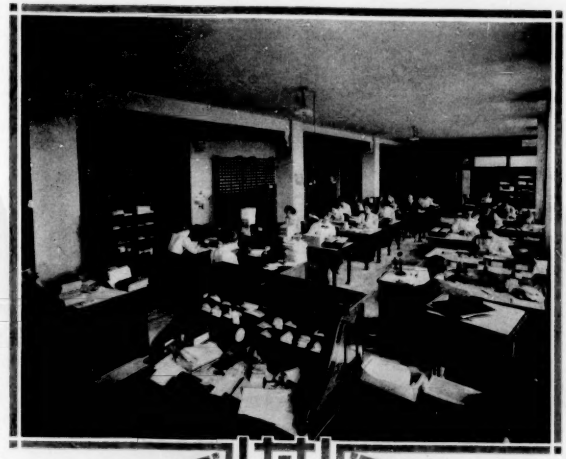
NOSTRUMS AND QUACKERY

In addition to the amount of publicity to which it has subjected the so-called proprietaries, through the Council on Pharmacy and Chemistry, the Association devotes considerable effort to the investigation of those medical evils which affect the people more directly—"patent medicines" and quackery. During the past year alone, over one hundred "patent medicine" products or quack institutions have been critically discussed in THE JOURNAL. Many of the these articles have been elaborated, profusely illustrated and reprinted in pamphlet form for distribution to the laity. That this work has awakened great interest in the subjects discussed is evidenced by the large number of inquiries that have been received on the subject. Hundreds of queries come in and are answered each month. A very large proportion of these have been answered by personal letter because of lack of space in THE JOURNAL.

The department in which this work is done (Fig. 23) has an exceedingly comprehensive file—usually referred to colloquially as the "Fake File"—containing a vast amount of data on medical and pharmaceutical fakes. The size of this file is steadily increasing and it probably contains more information on the subjects dealt with than is to be found in any other one place. Adver-

Figs. 28 to 31.—Four views in the business office on the third floor. The upper view shows the office of the manager of the advertising and subscription departments, Mr. W. C. Braun. The view on the right is of the subscription and membership departments. The one on the left is a corner of the general office showing the house telephone exchange and operator, the office boy, the house mail-delivering clerk, and the letter filing and correspondence mailing departments. Just beyond the glass partition is the waiting-room. The glass door straight ahead leads to the editorial suite. A feature of the letter mailing department not shown in this picture is an electric machine which seals, stamps and counts 150 letters a minute, another of the time saving devices of the office. It is especially important as a check on the number of postage stamps used. The lower picture is a general view of the subscription, membership and advertising departments, with the accounting department on the right in the background.

tising matter, both old and new, is to be found here; "follow-up letters" from quacks, "patent medicine" labels, reams of testimonials — these and the other paraphernalia that form the stock in trade of the nostrum exploiter and the quack are to be found classified and arranged in this file. Nor is this all; the names of the individuals who are behind many of the widely advertised "patent medicine" concerns, medical institutes etc., are included in the information that is



Figs. 32 to 34.—View of the main room, fourth floor, showing, in the foreground, the desk of Dr. S. C. Stanton, the news editor; in the center, the directory department; and, in the rear, the extensive files of the Council on Medical Education, and the office of Dr. N. P. Colwell, secretary of that Council. The view on the left shows a part of the manuscript editors' room, in which all copy is prepared for the printer; on the right is the exchange and abstract room.

here available. A comprehensive card index of over fifteen thousand cards is kept in connection with this file and an elaborate system of card indexing makes the information contained therein available in a moment.

The "Testimonial File," which is in the same department, contains the names of those physicians who make a practice of writing testimonials for proprietary products. There are over sixteen thousand cards in this file, and while most of the names it contains are for testimonials each to a single product, a large number have more than one. Some individuals have as many as twenty-five or thirty preparations against their names. The number of new names added each year, fortunately, is steadily decreasing.

The "Drug File," also compiled in this department, contains the names of all new drugs — proprietary and otherwise—whose use is described in current medical literature. Well-known non-proprietary drugs, when used in any uncommon way, are also listed in this file. In each case the reference and data are given. The value of this file of over 3,000 cards is appreciated when information is wanted on the probable therapeutic value of proprietary mixtures containing one or more obsolescent drugs. Ordinary textbooks contain practically no reference to drugs of that kind.

To look over even a fraction of the material collected in this department is to have overwhelmingly driv-

Fig. 35.—This, the main room of the chemical laboratory, is 30 by 40. The director, Mr. W. A. Puckner, is seated at his desk in the west end of the room, and his assistant chemists, Messrs. W. G. Hilpert and L. E. Warren, are standing.

en home to one the fraud, the deceit and heartlessness that are inseparable from quackery and nostrum exploitation.

On the fifth floor are the chemical laboratory, the library, and the trustees' and committee rooms.

CHEMICAL LABORATORY

From many points of view the chemical laboratory (Fig. 35) is one of the most important institutions in the Association building. It was established in 1906 to assist the Council on Pharmacy and Chemistry in its investigations, its function being to examine medicines to determine the truth or falsity of the claims of manufacturers. Gradually, however, the work of our chemists broadened out, and not only so-called "ethical" proprietaries, but the ordinary "patent medicines" became subject to investigation.

Fig. 36.—Another view of the chemical laboratory. Opening off from the main room to the right of the picture will be seen the fume room, in which many of the chemical procedures are carried on. This room is equipped with a powerful exhaust fan to carry off the fumes. Another room for the stenographers opens off from this room in the northeast corner. It also contains some of the files.

Here also are samples of old and new proprietary preparations and of the great majority of "patent medicines." The laboratory is thoroughly equipped in every particular; the new apparatus includes a microscope, a polariscope, a spectroscope, a Carius furnace, a combustion furnace, etc. It has a library of about 500 volumes on chemistry and pharmacy, and practically all the leading chemical and pharmaceutical journals of the world, thus making accessible to the medical profession, which the laboratory represents, every advance in pharmacy and chemistry. The laboratory personnel includes the director, who is an expert chemist, two other chemists, two clerks.

The sixth floor at present is used for storage purposes.

Fig. 37.—Group of the day force of the employees. The number of employees varies from 140 to 185. In addition there is a night force in the mechanical department which varies from eight to fifteen. The numbers designate the following: 1, Dr. George H. Simmons, editor and general manager; 2, Dr. E. E. Hyde, assistant to the editor; 3, Mr. W. C. Braun, manager of advertising and subscription department; 4, Mrs. E. P. Cushing, foreign current medical literature; 5, Mr. W. A. Puckner, secretary Council on Pharmacy and Chemistry and director of the Association Chemical Laboratory; 6, Dr. Fred C. Zapffe, domestic medical literature; 7, Dr. S. C. Stanton, news department; 8, Dr. Frederick R. Green, secretary Council on Health and Public Instruction; 9, Dr. N. P. Colwell, secretary Council on Medical Education; 10, Dr. A. R. Craig, assistant to the Secretary of the Association; 11, Dr. A. J. Cramp, department of propaganda for drug reform; 12 and 14, Drs. J. H. Sallsbury and J. B. Champion, of the editorial staff; 13, Mr. E. C. Shelly, cashier.

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SATURDAY, JUNE 17, 1911

THE PERMEABILITY OF THE MENINGES

In the treatment of cerebrospinal fever by specific antiserum, the contention of Flexner and others, that without intrameningeal administration little or no effect is to be observed, has been amply confirmed clinically. A partial experimental basis for this conclusion was furnished by observations which showed that the meninges are normally quite impervious to certain foreign substances, but such observations have until lately been limited entirely to crystalloids. Recently, however, Lemaire and Debré[1] have investigated the permeability of the meninges to antitoxins, and they have obtained results that confirm in a very striking manner those of the clinical work.

Their method was to administer to dogs, subcutaneously, large doses of tetanus antitoxin obtained from a horse. After allowing three days for complete diffusion of the antitoxin, cerebrospinal fluid was withdrawn with all possible precautions against admixture with blood, and this was then tested both for its protective power against tetanus toxin in white mice, and, by precipitation tests, for the presence of horse-serum. In no case were the investigators able to obtain any evidence of the latter, but some slight protective power—so slight as to be almost negligible—was observed. The blood, tested similarly, had a protective power about five hundred times as great as that of the cerebrospinal fluid, and gave a very strong precipitation reaction.

In view of the possibility that alteration of the rate of circulation might influence the permeability of the meninges, Lemaire and Debré tried the effect of administration of morphin shortly before the meningeal paracentesis. As before, no precipitation test for horse-serum was obtainable in the cerebrospinal fluid, but this now had a protective power two to three times as great as before. Strangely enough, the antitetanic power of the blood was diminished to almost one-tenth of its former value; and inasmuch as any direct action of the morphin on the antitoxin could be eliminated, they believe that the explanation lies in a generally greater diffusion of the antitoxin into the tissues.

1. Lemaire and Debré: Jour. de physiol. et de path. gén., 1911, xiii, 233.

Setting aside, however, these minor considerations, this work serves to demonstrate strikingly the resistance to penetration offered by the envelopes of the brain and spinal cord. And it is quite possible that in this direction is to be sought, at least in part, the explanation of the relative insusceptibility of certain diseases of the central nervous system to indirect medication.

THE OLDEST PRESCRIPTION IN AMERICA

What is undoubtedly the oldest prescription in America is listed under Accession Number 988 at the New York Metropolitan Museum of Arts. Its date is probably not later than 1500 B. C., some time during the nineteenth dynasty. It is written on a small piece of limestone, about three and one-half by three inches in its present somewhat injured condition, carefully smoothed for the purpose, forming what is called an "ostracon." The writing was done with a brush and some sort of black ink or paint, for pens did not come into use in Egypt until the Roman time. The substance employed was well adapted to its purpose, for the writing is still quite plain, except near the edges of the stone where fragmentation has occurred. The inscription is in the old cursive hieratic writing, somewhat similar to that of the Ebers papyrus, which dates from about 1600 B. C. It is written on both sides of the stone, with what Egyptologists would probably call typical old Egyptian neglect of such details, from above down on the longer measurement of the stone on one side, but across on the other side, as some ladies of the present day, after having written down one sheet of letter-paper, then turn it over and write crosswise on the back of it. Unfortunately it is not known whence this specimen comes. It was noticed in the museum some years ago by Mr. Max Müller, who recognized its medical character and translated the inscription, though rather unsatisfactorily.[1] An effort was then made to find the place of its origin, but the specimen had come with a number of other antique finds of many kinds gathered from various portions of Egypt and its exact provenience, to use the archeologic term, could not be determined.

The prescription as written seems to be a copy, because portions that in the ordinary medical writings of the time are abbreviated are here written out completely, just as copies of prescriptions written out by druggists to-day have the abbreviations enlarged. The ingredients called for in the prescription are mainly precious stones. These were to be ground up to be used for fumigation. Professor von Oefele, an authority on ancient Egyptian medicine, suspects that the case was one of hysteria, though there is no indication of this on the prescription itself. Ground precious stones were favorite remedies for hysterical manifestations. They were used for fumigation whenever the ball in the throat, our globus hyster-

1. An Ostracon in the Metropolitan Museum, New York. Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes, xxii, 103.

icus, was a prominent symptom. This was supposed to be due to a crowding of the other organs by a dislocation of the uterus upward.

Indications on the prescription show that various classes of precious and semiprecious stones were used for patients of differing degrees of wealth. For the very wealthy, a valuable stone like sapphire was used. For those of moderate wealth a more modest stone would do. For the poor, malachite, which was rather common, sufficed. The remedies which cure the nervous affections of ordinary people seem never to have been capable of producing the same effect on the neurotic symptoms of the wealthy, for whom something quite different, and above all, much more costly is required. Further study of the specimen will doubtless bring out more interesting details with regard to the medicine of the time.

THE PUBLIC DRINKING-CUP

The "cup of death" is rather gruesomely pictured in the *Cup-Campaigner* as a skull, with its top sawed off (as in autopsies), a handle fashioned to the occiput, a chain attached to the handle, the other end being fastened to a drinking-fountain. A campaign against the public cup is now being conducted throughout the Union. Several states have already taken action, Kansas being the first to abolish the common drinking-cup; Michigan, Wisconsin, Mississippi, New Jersey, New York, however, have fallen in line. Pennsylvania, through the secretary of her state board of health, warns her people that "the cup used in common in public places must inevitably be the constant medium of communication of diseases such as tuberculosis, diphtheria and other infections." In Illinois it is declared that "the public drinking-cup is as antiquated as the ducking-stool and the inquisition; people never think of eating from public plates or wearing public clothes or smoking public cigars."

Illinois has just passed a bill abolishing the use of the public drinking-cup. Chicago, through its health department, supported by the newspapers, has waged an active campaign against it. The city bacteriologists have collected drinking-cups from various school buildings, hotels, railway stations and stores in the city of Chicago and have made microscopic examinations and bacterial cultures from these cups. The most frequent varieties of germs found are various pus germs, also, specimens of pneumonia and diphtheria bacilli have been found. Guinea-pigs have been inoculated with these cultures and the results of these tests, according to the city bacteriologists, prove the deadly nature of these bacteria. All the pigs inoculated with the bacteria of the pus infections developed fatal abscesses. The tests with the diphtheria culture were also positive, as proved by the occurrence of the disease.

In Connecticut (as also in other states) private banking-houses, hotel managers, department-stores and other corporations are cooperating with the health authorities for the protection of their employees and their patrons and for the installation of the bubbling drinking-fountain in railway trains and stations, in parks and other public places. Many cities are moving in the same direction. New York City, after October 1, will make illegal the use of the public drinking-cup in any public institution, hotel, theater, factory, hall, school, railway station or ferry house; already some of the public schools of New York City have been equipped with a jet apparatus, so arranged that the child's lips do not touch any part of the machinery.

A large number of railroads have adopted a paper cup, supplied to the thirsty on putting a penny in the slot, which may be used for the entire trip. In trains, of all places, is this a necessary measure, both for disease prophylaxis and for elementary decency. Again, in barrooms, glasses, after being used, often receive no more attention than a dip in cold water and a perfunctory wipe with a towel that has already seen considerable service. At soda-water fountains also, "a lick and a promise" by way of apology for washing, are much in evidence. Such glasses may look clean, but often the invisible pathogenic bacteria remain to enter any abrasion of the lips, or possibly to penetrate an intact mucous membrane.

Elimination of this means of spreading disease, especially those most unfortunate cases of lues innocentium, should receive support, and might well be extended to cover a number of other public uncleanlinesses.

THE TREATMENT OF NEURALGIA WITH INJECTIONS OF ALCOHOL

The treatment of neuralgia by means of superficial or deep injections in the vicinity of the trunk of the affected nerve of sterile water or of saline solution or of various medicinal substances, anesthetic or otherwise, in solution is no new procedure, and good results have been obtained in this way. As our readers know, it is, however, only within the last decade that injections of alcohol, 70 per cent., 80 per cent., 90 per cent., into the sheath of a nerve have been made with the same object in view, and more particularly for the relief of trigeminal neuralgia.

In the hands of those who have had the largest experience the results have been most satisfactory.[1] Especially in the case of the branches of the fifth nerve the operation requires special skill and special apparatus by reason of the deep and concealed situation of the structures. Here the object is to reach the trunk of the first division in the sphenoidal fissure, or the second division in the round foramen, or the third division in the oval foramen, and these may be approached either from the side of the

1. See the index of THE JOURNAL for the past four and one-half years for articles by Patrick, Hecht and others on this subject, among which the following may be mentioned: Blair, V. P.: Notes on Trifacial Neuralgia Treated by Deep Injections, THE JOURNAL A. M. A., Feb. 4, 1911, p. 335. Patrick, H. T.: Seventy-Five Cases of Trifacial Neuralgia Treated by Deep Injections of Alcohol, THE JOURNAL A. M. A., Dec. 11, 1909, p. 1987.

face or from the interior of the mouth. The operation is attended with some pain or a sense of burning, but the majority of operators do not use general or even local anesthesia, although some do. If the injection be properly made relief from pain follows within an hour or so in association with anesthesia or numbness of the parts supplied by the nerve subjected to treatment, and in many cases paresthesia in the skin or mucous membrane. The anesthesia, numbness or paresthesia gradually wears off, while the pain usually remains absent for months or even for years. Sometimes, perhaps because the injection does not thoroughly reach the nerve, the relief is but slight, and the injection must be repeated in a day or two or a week. Occasionally, several injections may be required, and it may be necessary to inject several branches of the fifth nerve on one or on both sides. The operation is comparatively free from danger, although circumscribed edema or a hematoma may develop, or a blood-vessel may be penetrated or a motor nerve injured. The technic can be readily acquired.

The procedure is indicated when the usual measures—medicinal, climatic, hygienic, physical—have failed, and it may be employed even after operations on the Gasserian ganglion have been unattended with success. Further, failure with this expedient does not preclude other surgical intervention. Endoneural injection of alcohol for the relief of neuralgia is applicable only to sensory nerves, inasmuch as serious muscular paralysis might result from infiltration of a motor nerve. Deliberate injection of a motor nerve may, however, be practiced in the presence of tonic or clonic muscular spasm.

THE SUPREME COURT ON THE FOOD AND DRUGS ACT

The Supreme Court's interpretation of the Food and Drugs Act in the case that is technically known as the United States *vs.* O. A. Johnson, has already been commented on in THE JOURNAL.[1] This week we reproduce in "The Propaganda for Reform" the full text of both the majority and the dissenting opinions of the court. A careful reading of these two documents will prove both interesting and instructive. Without desiring to criticize the findings of the highest court in the land, we believe that a careful study of the majority opinion will lead to the inevitable conclusion that the court had to strain the meaning of the English language and flounder far afield in order to find points on which to reach a decision that would uphold the lower court. On the other hand, we believe that all open-minded persons will declare that Justice Hughes' dissenting opinion is as superior in logic and common sense to the majority opinion as it is in composition and clearness of expression.

On analyzing the majority decision, it is found that the court admits that the claims made by Johnson for the curative effect of his nostrum were "false, or, at least, misleading." The court holds, however, that the words in the act which prohibit "any statement . . . which shall be false or misleading in any particular," mean "false or misleading" in *certain* particulars, namely, those relating only to the composition of a drug product or its place of manufacture. The court admits further that while "logically" interpreted the law probably prohibits the making of false statements regarding curative effects of drugs, interpreted "idiomatically it does not" prohibit. It appears then, that not only have Dr. Wiley and his assistants, in the past, interpreted the Food and Drugs Act in the interest of the sick who might be swindled, but they have interpreted it "logically." The Supreme Court, on the other hand, interprets the words of the act in an "idiomatic" sense— and incidentally in the interest of as cruel a gang of swindlers as ever operated under the protection of the law.

One point more is worth noting while discussing the majority decision: In the closing paragraph, while the court does not explicitly state that in its opinion Congress has no constitutional right to prohibit false statements regarding the curative effect of drugs, yet it is hard to read into that paragraph any other meaning. The court apparently holds that should Congress specifically prohibit false claims for curative effect, it would, in so doing, "distort the uses of its constitutional power" by establishing criteria "in regions where opinions are far apart." We believe that it is not necessary for a man to be learned either in law or in medicine to be able to see on the face of it that the claims made by Johnson the cancer cure quack and by those of his kind, are false *per se*, and in determining the falsity it is not necessary to wander into "regions where opinions are far apart."

In his dissenting opinion, which was concurred in by Justices Harlan and Day, Justice Hughes, in referring to the limitations which the majority of the court has placed on the meaning of the act, said:

> "I fail to find a sufficient warrant for this limitation, and on the contrary, it seems to me to be opposed to the intent of Congress and to deprive the act of a very salutary effect."

Mr. Hughes says further that to limit misbranding to mere statement of composition and place of manufacture is to "ascribe an altogether undue weight to the wording of the clause and to overlook the context." He says that, as must be evident to anyone:

> "If Congress had intended to restrict the offense to misstatements as to identity, it could easily have said so. But it did not say so."

Moreover, it is pointed out that when the question was before Congress, that body refused "so to limit the statute." To the argument that the curative properties of drugs are matters of opinion and that there are conflicts of opinion both between different schools of medicine and between individuals of the same school, he delivers this common-sense, knock-out blow:

> "Granting the wide domain of opinion and allowing the broadest range to the conflict of medical views, there still

1. THE JOURNAL A. M. A., June 3, 1911, p. 1660, and June 10, 1911, p. 1725.

remains a field in which statements as to curative properties are downright falsehoods and in no sense expressions of judgment. This field, I believe, this statute covers."

The dissenting justices hold that where a nostrum has been represented to be a cure, when as a matter of fact it is "absolutely worthless and an out-and-out cheat, the act of Congress can be said to apply to it." Finally, Justice Hughes sums up the whole question in one pointed and pertinent sentence:

"WHY SHOULD NOT WORTHLESS STUFF, PURVEYED UNDER FALSE LABELS AS CURES, BE MADE CONTRABAND OF INTERSTATE COMMERCE—AS WELL AS LOTTERY TICKETS?"

We believe that the country is asking the same question. Congress should answer it!

PROPHYLAXIS OF FOURTH-OF-JULY TETANUS

We have every reason to hope that the annual crop of tetanus cases will not be so large after this Fourth-of-July celebration as in previous years, for the "sane Fourth" movement seems to show a healthy growth, and tetanus occurs only in those places that still tolerate an insane Fourth. In 1909 there were reported 1,225 blank-cartridge wounds with 150 cases of tetanus, while in 1910, largely as a result of improved control of celebration by municipalities, only 450 blank-cartridge wounds were inflicted—a mere trifle—causing but seventy-two cases of tetanus, of which about sixty-seven were fatal. Even though this great improvement has taken place, we are still of the opinion that such comfort, joy and patriotic fervor as may be yielded by the primitive custom of celebrating Independence Day by explosives, is not worth the 131 lives and 2,792 injuries of greater or less severity which it cost last year. Enough others seem to be of the same opinion to assure a decreased expenditure of life, blood and cuticle for the 1911 celebration, but not enough to reduce this to zero.

It is still necessary to impress on practicing physicians the fact that, however many accidents may occur, the loss of life from tetanus is almost entirely preventable. Sixty-seven deaths from tetanus last year means that at least sixty-five lives might have been saved by prompt injection of antitoxin immediately after the wound was received. Undoubtedly in many cases this failure was caused by the neglect of the patient or his parents; but not a few failures, we regret to say, rest on the shoulders of the attending physician. Surely, after all the years in which the danger of tetanus from blank-cartridge wounds and the efficiency of tetanus antitoxin as a prophylactic have been heralded in the medical press, there is no reasonable excuse for such neglect. It should be remembered that the percentage of deaths from blank-cartridge wounds received in last year's celebration was greater than from bullet wounds, only 10.2 per cent. of the latter causing death, while 12.7 per cent. of the blank-cartridge wounds were fatal. The experience of each year, as to both Fourth-of-July injuries and ordinary traumas, strengthens the standing of tetanus antitoxin as a prophylactic agent, especially when given immediately after the wound is received. We would particularly emphasize, however, that antitoxin is not a substitute, but an accessory to thorough surgical cleansing, and also that the most thorough surgical care without antitoxin is not proof against tetanus when blank-cartridge wounds are under consideration. It must be realized that the cleansing of these wounds is a major operation, which can be performed only under complete anesthesia. The few recorded cases in which antitoxin has failed to prevent tetanus after suspicious injuries have usually occurred when a local infection has permitted the tetanus bacilli to live in the tissues until such time as the antitoxin has been eliminated or destroyed; hence in cases in which suppuration takes place in the wound, repetition of the prophylactic injection should follow at intervals of from eight to twelve days until complete healing has taken place. Neither should antitoxin be omitted when patients are not seen until the wound is several days old, but rather it should then be given in large doses, for although not certain to prevent tetanus when given this late, yet if tetanus does arise the prognosis is decidedly better if antitoxin has been used.

As to the curative treatment of tetanus, there still fails to be any decided step in advance. The magnesium sulphate treatment contains an element of danger which should limit its use for the present to large clinics and hospitals, where all conditions can be controlled, and where expert consideration can be given to the procedure. Unsparing use of antitoxin is apparently advisable after symptoms of tetanus have manifested themselves, and a review of the world's literature on the use of antitoxin gives strong indication that the intraspinal route is the method of choice. Not only is it theoretically advisable on the ground that antibodies injected into the blood are not secreted into the cerebrospinal fluid in large amount, but also because the clinical reports show a distinctly higher percentage of recoveries in cases in which the antitoxin has been given in this way.

Current Comment

GREAT IS MAMMON

Over a month ago we called attention to the fact that the referee board had upheld Dr. Wiley's contention that saccharin was injurious and, on the strength of this decision, the Secretary of Agriculture had declared that after July 1 of this year saccharin-containing foods would be regarded as adulterated under the Food and Drugs Act. Of course, a protest at once was made by those whose pocketbooks would be hurt by the decision; namely, the manufacturers of saccharin and those "food dopers" who think more of dividends than of public health. They pointed out that vast sums of money had been invested in the saccharin business

and that the order issued by the government would practically destroy this business. The wail was heeded, and the sale of foodstuffs that are adulterated with "a poisonous and deleterious substance" instead of being prohibited after July 1, 1911, has been permitted to continue until May 1, 1912. The fact that saccharin is a harmful substance, and that in the interest of the public health its use in foods should be prohibited, counts as nothing when the almighty dollar is at stake. According to the Charleston (S. C.) *News-Courier*, Secretary Nagel, of the board of review, takes this attitude in cases of this kind:

"Where the question about these foods is a close one, every consideration should be shown to the man who has invested his money in a business."

In other words, when the question between public health and individual profit is not clearly defined, decide in favor of individual profit! As the Charleston *News-Courier* says:

"Here the lines were plainly drawn. This man's dollar was up against that man's health. The man for the dollar was there to speak for himself. The man whose health was to be placed in jeopardy was not there. The man with the dollar won, of course."

LINGER IN LOS ANGELES

The Los Angeles Committee on Arrangements most cordially invites all who attend the annual session to remain over the following Sunday. The rules restrain entertainments during the time the sections are holding their meetings. The committee, therefore, plans most elaborate entertainments on Friday and Saturday. A considerable amount of money has been raised and the committee would be sorry not to have its guests present to enjoy the good things which have been provided. A list of entertainments was given in THE JOURNAL May 20. It includes a Spanish luncheon in the beautiful sunken gardens, Roman chariot races and a midsummer night carnival. There will be trips to the orange-groves, to the beautiful bay of Avalon on Catalina Island and to San Pedro Harbor, Long Beach and other suburban beaches and resorts. It ought not to be hard to grant such a request as this. The reputation of California for hospitality adds a most delightful flavor of sincerity and cordiality to the urging of the committee, and we pass the invitation on to all of our readers with hearty endorsement.

THE TUBERCULOUS PATIENT AFTER SANATORIUM TREATMENT

Pennsylvania is one of the states that have made considerable advance in the institutional treatment and after-care of tuberculous patients. In addition to a number of state sanatoriums, there are distributed throughout the state some one hundred and fifteen tuberculosis dispensaries. The health commissioner of that state, Dr. Samuel G. Dixon, has prepared instructions to aid physicians and nurses in charge of these dispensaries in systematically following up these patients after they have left the sanatoriums. This is done principally by the trained nurses connected with the dispensaries. Under these instructions, the nurse in her visits to these patients is required to note details of their physical condition, not of course making such an examination as the physician makes, but observing whether a patient is improving, holding his own or going backward; the patient's general living condition; if employed, how many hours he is able to work, and conditions surrounding his work; facts as to the patient's present and previous earnings; family income; habits in regard to the use of alcohol and tobacco; number of hours the patient is able to rest; amount of sleep he takes; general sanitary conditions of his home, etc. The nurse also investigates particularly whether tuberculosis has developed in the patient's immediate family or among his relatives, and whether any connection exists between the new and the old cases. The institutional treatment of tuberculosis is now regarded as most effective. One of the difficulties connected with it, however, is the fact that most of the patients leave the institutions before they are cured. This is true as regards private sanatoriums, but especially of the state or municipal institutions, where there is such a large demand for admission, making it seem almost necessary to limit the time the patients may remain in such institutions. Hence it is most wise, if permanent results are to follow, that attention be given to the patients after they leave the institutions; and this not alone for the individual patient's good, but that he may not become a source of infection to his family and the community. The after-supervision is recognized by all as of great importance, and the system followed in Pennsylvania offers valuable suggestions that might wisely be followed in other states.

INDUSTRIAL LABORATORY SECRECY

It is a principle of the medical scientist working in the fields of chemistry, therapeutics, physiology, bacteriology, etc., or the surgeon in his special field, in originating an improved or new surgical procedure or instrument, immediately to give the world the benefit of his discovery or invention, without reservation and without material reward. In this age the discoveries of research workers and experimenters are seized on with avidity and applied in industry for commercial profit. So enterprising have industrial firms become that many of them maintain finely equipped laboratories and competent staffs of workers to invent and improve processes and substances which may be exploited for profit, taking advantage of every revelation of science. This is particularly true of discoveries in chemistry and biology, which may be applied in the treatment of disease. Many of these laboratories develop independently products of great value and in their work attain results or establish facts which cannot be utilized by them, but which might, if given to the world, lead to other discoveries of the highest scientific importance, perhaps in an entirely different direction. In making a plea for a more generous publication of scientific results in industrial laboratories, Prof. William H. Walker, of the Massachusetts Institute of Technology, in a recent address[1] says that there is a heavy moral obligation on the part of large industrial organizations maintaining fully equipped laboratories to contribute their share to the

1. Walker, William H.: Scient. Am., April 29, 1911, p. 422.

advancement of the world's knowledge, and that they could do much in this way without harm to themselves. In this respect he compares the attitude of the industrial establishments of Germany with those of this country, to the distinct advantage of the former. There are some notable exceptions to the rule, however, as in the instances of a few of the large commercial biologic laboratories of this country. But Professor Walker rightly deprecates the spirit which would have these laboratories remain the secret chambers of the alchemists, as it were, wherein to improve their methods of changing baser metals into gold without regard to their larger obligations to humanity. He rightly demands that they should join in the work of the special laboratories endowed by philanthropy and aid more largely in the general advancement of science.

THE PASSING OF THE SMOKY CHIMNEY

Portraits of the literal, inartistic kind, when many years old, often have a ludicrous appearance, owing to changes in style of dress. Similarly, years hence, some of our present customs will invite a supercilious smile from the rising generation, for surely they are fated to become obsolete, and when they have become so it will be hard to understand why they were ever tolerated. The smoking chimney is a sample. We have before us the letterhead of the "Department of Public Safety, Office of the Superintendent of Hospital," of one of the largest cities of our country. A very carefully executed engraving of the hospital and grounds adorns the letterhead. In the background a smokestack rises from the heating plant. The artist, knowing that a smokestack was meant to smoke, does his duty nobly. The smokestack belches forth a black cloud. Such an exhibit on the letterhead of a Department of Public Safety will be absurd twenty-five years hence. This conception of the artist — namely, that a chimney should smoke — has been a source of amusement before now. Health resorts, steamboat lines and railroad companies often portray on their advertising matter a steamboat or engine belching out a veritable cloud; and the apparent besmirching and discomfort of all who are within reach cannot be said to be a first-class advertisement for the resort or the railroad. Customs change. Although a moving railroad train without a cloud of smoke would seem to be as much of an anomaly now as a horseless carriage would have seemed a short time ago, in the future the anomaly—and a most discreditable one—will be the smoking stack, at least within urban limits.

Symptoms of Phlegmon of the Larynx.—If seen during the first twenty-four hours, writes J. Harper in the *Practitioner*, the local appearance of acute phlegmon of the pharynx is that of follicular tonsillitis, but the general symptoms are out of all proportion to that disease. The disease is usually ushered in by severe shivering. In a short time the slight discomfort in the throat has developed into severe pain, and almost from the commencement the temperature is high, ranging between 103 and 106 F. The pulse at first is full and bounding though rapid, but soon becomes feeble. In a remarkably short time the patient's condition becomes extremely weak, in some cases going on to delirium and coma.

Medical News

ILLINOIS

University of Illinois Gets Appropriation.—Governor Deneen has signed the bill providing for an appropriation of over three and a half million dollars for the immediate support of the University of Illinois and for a mill tax each year for the future. Another item in the bill provides $60,000 per year for two years for the College of Physicians and Surgeons of Chicago, which will hereafter be known as the College of Medicine of the University of Illinois.

Chicago

Personal.—Dr. and Mrs. Clarendon Rutherford have started for Europe.——Dr. Newton D. Lee is said to have narrowly escaped drowning at Gray's Lake, June 4.——Dr. P. J. H. Farrell has recovered from his recent illness and resumed practice.

Home for Nurses.—Plans for a home for the nurses of Mercy Hospital have been started by the sisters in charge. It is proposed to erect a building to cost $100,000 and to accommodate 120 nurses. The urgent necessity for this lies in the fact that seventy of the nurses will soon be obliged to leave their present quarters on account of a decision of the city building department.

Medical Reserve Men Organize.—On June 6, the third meeting of the members of the Medical Reserve Corps, U. S. Army, was held in Chicago. Lieut. Charles Adams, surgeon-general of Illinois, presided, and Lieut. Samuel C. Stanton was secretary. After remarks by Col. L. Mervin Maus, M.C., U. S. Army, and Surgeon George B. Young, U. S. P. H. and M.-H. Service, on the scope and object of the medical reserve corps, a constitution was adopted and the Association of the Medical Reserve Corps, U. S. Army, Illinois Division, was formally organized and the following officers were elected: president, Lieut. Frank Billings; vice-president, Lieut. Edmund J. Doering; secretary and treasurer, Lieut. J. Allen Hornsby, and councilors, Lieuts. Charles Adams, Junius C. Hoag, Daniel A. K. Steele and Albert E. Halstead. Votes of thanks were given to Colonel Maus and Capt. James F. Hall, M.C., U. S. Army, for their aid in organizing the association, and these gentlemen, with Surgeon George B. Young, U. S. P. H. and M.-H. Service, and Brig.-Gen. Robert M. O'Reilly, M.C., U. S. A., retired, were made honorary members of the association.

Hospital Notes.—A free tuberculosis clinic was opened at St. Elizabeth's Dispensary, Blackhawk Street and North Ashland Avenue, June 2. Dr. Stephen R. Pietrowicz is attending physician and the clinic will be open on Mondays and Thursdays from ten o'clock until noon.——Plans are being prepared for the initial building for the Chicago Fresh Air Hospital at 7528 North Western Avenue. A three-story administration building, 50 by 150 feet, is first to be erected.——Property near Michael Reese Hospital has been purchased by the trustees of that institution on which the Sarah Morris Hospital for children, for which $300,000 was provided in the will of the late Mr. Nelson Morris, will be erected.——The Danish Hospital Association has been incorporated and proposes to build a Danish hospital on the south side of Chicago in honor of the late Dr. Christian Fenger, to be known as the Fenger Memorial Hospital.——By the sale of eight cornerstones and other privileges, $5,000 was raised, May 28, for the Maimonides Kosher Hospital which is now in course of construction at California Avenue and Rebecca Street.

INDIANA

Birth and Death-Rate.—During 1910 the birth-rate for Indianapolis was 20.03 per 1,000 and the death-rate 17.28 per 1,000. The rate for 1909 was 18.35 per 1,000 for births and 12.67 per 1,000 for deaths.

Sanitary Advancement in Public Schools.—The Indianapolis public schools have discarded the individual drinking cups and have placed bubbling fountains in every school building, and the use of sanitary tissue-paper towels is now being tried in place of the old-fashioned roller towel.

KENTUCKY

Dean Resigns.—Dr. Thomas C. Evans, Louisville, who, since the consolidation, has been the dean of the medical department of the University of Louisville, has resigned on account of ill health and Dr. William E. Grant has been selected as his successor.

Society Meetings.—At the annual meeting of the Southwestern Kentucky Medical Association, held in Paducah, May 17-18, the following officers were elected: president, Dr. William G. Kinsolving, Eddyville; vice-presidents, Drs. T. Atchison Frazier, Marion, and Claude E. Kidd, Paducah; secretary, Dr. Henry G. Reynolds, Paducah (reelected); treasurer, Dr. Vernon Blythe, Paducah (reelected), and historian, Dr. Robert T. Hocker, Arlington (reappointed). The next session will be held in Clinton, October 31.——Eagle Valley Medical Association, at its annual meeting held in Sanders, elected the following officers: president, Dr. Edward E. Bickers, Henry County; vice-president, Dr. C. H. Duval, Warsaw, and secretary and treasurer, Dr. John W. Botts, Owenton.

LOUISIANA

St. Luke's Guild Organized.—At a meeting held at the residence of Archbishop Blenk, New Orleans, May 27, an association of Roman Catholic physicians and dentists was organized, the design of the association being to open free clinics for the Catholic poor, not only in New Orleans, but in the centers of population all over the state. Among the officers elected are Drs. Lucien M. Provosty, New Orleans, and Charles M. Menville, Houma, vice-presidents, and Dr. Albert E. Fossier, New Orleans, treasurer.

State Railway Surgeons Organize.—On May 29 the Louisiana Railway Surgeons' Association was organized at Shreveport by surgeons of the Louisiana Railway and Navigation Company, Vicksburg, Shreveport and Pacific Railway, Alabama and Vicksburg Railway, and New Orleans and Northeastern Railway. The following officers were elected: president, Dr. Hermann B. Gessner, New Orleans; and vice-presidents, Drs. James B. Guthrie, New Orleans, and Stuart L. White, Ruston; secretary, Dr. J. D. Martin, Shreveport, and treasurer, Dr. Daniel W. Kelly, Winnfield.

MARYLAND

New County Society Officers.—At the annual meeting of the Howard County Medical Society, Dr. W. Rushmer White, Baltimore, was elected president; Dr. W. B. Gambrill, Ellicott City, vice-president, and Dr. Frank O. Miller, Ellicott City, secretary and treasurer.

Personal.—Dr. Claude C. Smink has resigned as surgeon on charge at the Bayview Hospital and has settled for practice at Lauraville.——Dr. Ira J. McCurdy, Frederick, has been detailed to make the preventive typhoid inoculation of the First Infantry, Md. N. G.

Baltimore

Personal.—Drs. William S. Halstead, William A. Fisher, Walter F. Sowers and Claude A. Stonecipher have sailed for Europe.——Dr. Nathaniel G. Keirle was given the degree of LL.D. by Dickinson College, Pa., June 7.

Antityphoid Vaccination.—Dr. Warren P. Morrill, superintendent of Sydenham Hospital for Infectious Diseases, advises general vaccination against typhoid, and the adjutant general of the state urges that all the militia going into camp this summer be so protected.

Faculty Changes.—The following appointments are announced in the University of Maryland: Dr. Harry Adler has been made professor of therapeutics and clinical medicine; Dr. Gordon Wilson, professor of clinical medicine; Dr. Joseph E. Gichner, associate professor of physical therapeutics and professor of clinical medicine; Dr. I. H. Davis, professor of operative and clinical dentistry, and Dr. B. Merrill Hopkinson, professor of oral hygiene and dental history.

Hospital and School for Crippled Children Opened.—The James Lawrence Kernan Hospital and Industrial School for Crippled Children at Radnor Park was dedicated, June 10. The property contains 63 acres and has on it a colonial mansion which, after having been remodeled, now contains thirty rooms. A modern cottage adjoins it, which contains twelve rooms, is to be used as a nurses' home. This institution will take the place of the City Hospital which it has occupied for the last fifteen years.

MASSACHUSETTS

Opium Seller Arrested.—Louis Quay, said to be the only Chinese doctor in Chinatown of Boston, was arrested June 1, charged with having opium in his possession. Another Chinaman was arrested at the same time, charged with being present when opium was found.

Personal.—Dr. Elmer E. Southard, Boston, secretary of the Section on Nervous and Mental Diseases, has been forced to give up his trip to Los Angeles because of an infection obtained at an autopsy on one of the patients in the strange tonsillitis epidemic which has been raging in and near Boston for some weeks. His assistant, Dr. Mooers, was infected by the same material and died from streptococcus septicemia and meningitis.

Harvard Post-Graduate Courses.—The post-graduate courses which have been held at Harvard Medical School for many years, have been organized into a definite school or department of the faculty of medicine so that the faculty, hereafter, will consist of the medical school, the dental school, and the graduate school in medicine, each presided over by a dean and administrative board, in addition to a dean of the faculty of medicine. Besides this, there is a division of medical sciences in the faculty of arts and sciences by which is administered master of arts, doctor of science, and doctor of philosophy degrees in medical subjects. This graduate school is to go into operation with the beginning of the academic year, 1912-1913. The proposed courses are: first, all-day courses, consisting of a general course in a variety of subjects for general practitioners, continuous throughout the school year, or special courses on single subjects for practitioners, teachers or specialists; second, interrupted courses or courses in special subjects for those who want instruction for a part of one or more days in the week; and third, research courses for men who wish to do original research work.

MINNESOTA

Detention Hospital Opened.—The formal opening of the new isolation hospital, erected by the village of Hibbing at a cost of $10,000, took place May 3. There are no cases of communicable disease in the hospital.

Personal.—Dr. and Mrs. William W. Lewis, St. Paul, have started for Europe.——Dr. Arthur W. Whitney, St. Paul, has been made chairman of the charter commission.——Dr. Roy J. Heron has resigned from the medical staff of the Soldiers' Home, Minneapolis, to enter private practice in North Dakota.——Dr. Homer F. Peirson has been elected chairman of the board of health of Austin.

MISSOURI

Hospital Directors Named.—Drs. Norman F. Terry, Theodore A. Coffelt, John R. Boyd and Robert L. Pipkin will serve as the directors of the Springfield Hospital Association for the ensuing year.

County Society Election.—Lafayette County Medical Society, at its annual meeting held in Lexington, May 11, elected the following officers: president, Dr. Caius T. Ryland, Lexington; vice-presidents, Drs. Ferdinand Schreiman, Concordia, and William A. Braecklein, Higginsville, and secretary and treasurer, Dr. Paul B. Clayton, Odessa.

Maternity Service and Nursery.—The trustees of the German Hospital, Kansas City, have set apart one floor of their new building for a maternity service and nursery. A modern equipment is being installed throughout. Dr. George C. Mosher has been elected obstetrician and director of the department and Dr. Frank C. Neff has been made pediatrist for the hospital.

St. Louis

Presentation to Health Commissioner.—On the retirement of Dr. H. Wheeler Bond as health commissioner, May 22, the officials and employees of the health department presented him with a silver punch bowl, ladle and tray.

Personal.—Drs. Walter H. Fuchs and James B. Pritchard have been appointed members of the board of health.——Dr. George A. Johns has been confirmed by the council as superintendent of the sanitarium and Dr. Michael J. Dwyer as superintendent of Robert Koch Hospital.——Dr. G. Alexander Jordan has been reappointed assistant health commissioner.——Dr. John B. Coryell has been elected grand medical examiner of the Knights and Ladies of Honor.——Dr. William Engelbach sustained painful injuries in a collision between his automobile and a work train of the United Railway Companies, May 19.

Memorial Services.—At a meeting of the St. Louis Medical Society, May 28, the nine members of the society who had died during the year were made the subject of eulogies by members. Dr. Gustav Baumgarten was eulogized by Dr. Washington E. Fischel; Dr. John E. Faber by Dr. Frederick W. Abeken; Dr. Theodore F. Fienup by Dr. Arthur N. Curtis; Dr. Robert Q. Gray by Dr. Paul Y. Tupper; Dr. John A. Leavy by Dr. James M. Scott; Dr. Julius F. Menestrina by Dr. Edward Horace Johnson; Dr. Bernard W. Moore by Dr. Edward W. Saunders; Dr. Edwin M. Nelson by Dr. Aaron J. Steele and Dr. Warren B. Outten by Dr. Frank J. Lutz.

NEW YORK

Jenkins Medical Association.—At the annual meeting of Jenkins Medical Association, held in Yonkers, May 11, the following officers were elected: president, Dr. L. B. Goldhorn, Mount Vernon; vice-president, Dr. Albert C. Benedict, Yonkers; secretary and treasurer, Dr. Frank W. Shipman, Mount Vernon; and trustees, Drs. Archibald M. Campbell and William F. Greene, Mount Vernon, and Edgar M. Hermance and Nathan A. Warren, Yonkers.

Personal.—Dr. Burt G. Wilder, Ithaca, emeritus professor of neurology and vertebrate zoology of Cornell University, Ithaca, has moved to Brookline, Mass.——Dr. Ambrose Beach, Coxsackie, underwent operation for appendicitis in the Albany Hospital June 3.——A building in Schagticoke, owned by Dr. James H. Lyons, Troy, was burned, May 26, with a loss of $3,000.——At the semiannual meeting of the Seneca County Medical Society, held in Seneca Falls, Dr. Elias Lester, Seneca Falls, who has been a member of the medical profession for more than fifty years, was the guest of honor.

New York City

Cholera Death on Ocean Liner.—The passengers on the steamship *Berlin* from Naples were held in quarantine on arrival at New York City on account of a death from cholera on board.

Personal.—Dr. Walter H. Conley has been appointed first deputy medical superintendent of Bellevue and Allied Hospitals, vice Dr. George O. Hanlon, promoted to general medical superintendent.——Dr. and Mrs. Louis Kast sailed for Europe, June 6.

New Polyclinic Hospital.—The New York Polyclinic Hospital will be completed about October 1. Dr. John A. Wyeth was the founder and is the secretary and moving spirit of the institution and the chief promoter of this new enterprise. The building is said to be the tallest hospital building in the country. The main building will be ten stories in height, with a solarium on the roof. On the ground floor will be the dispensary, rooms for the visiting staff, patients, trustees, etc.; on the second floor the medical and surgical amphitheater, four wards, examination rooms, *x*-ray and laboratory, and minor operating room; the mezzanine floor will be given over to diseases of the eye, ear, nose and throat; the fourth floor will be occupied by a children's ward, maternity ward, and museum; sleeping rooms for nurses and servants are located on the fifth floor; the sixth, seventh and eighth floors are to be devoted to private patients; the ninth floor to private operating rooms and wards; the tenth floor contains an isolation ward, and the dining rooms of the officers, nurses and servants, while the roof will be used as solarium for all patients. The legend over the entrance of the hospital is: "For the sick without regard to race or creed." The main building will cost about $650,000 and, with the adjoining ambulance station, training school for nurses, and cost of ground, will represent, altogether, an investment of about $1,000,000. About half of this is available at the present time.

OHIO

Personal.—Dr. Henry G. Meek, Bellaire, has been elected president of the Bellaire Board of Health, and Dr. Dixter W. Boone, health officer.

New Officers for State Board.—At the annual meeting of the State Board of Health, Dr. Frank Warner, Columbus, was elected president; Dr. Oscar Hasencamp, Toledo, first vice-president; Dr. Frank Boudreau, Cleveland, epidemiologist, and Dr. Charles O. Probst, Columbus, was reelected secretary-treasurer.

Cincinnati

Visiting Nurse for Eye Cases.—The board of health has accepted the offer of the Cincinnati Society for the Welfare of the Blind to give $1,000 a year for the employment of a visiting nurse to look after cases of affected vision in children, with especial reference to ophthalmia neonatorum.

Health Department Experience for Advanced Students.—The board of health of Cincinnati has voted that junior and senior students of the College of Medicine of the University of Cincinnati may have a practical course in public health and sanitation. The work will include the usual chemical and bacteriologic work of health departments, the questions of water-supply, sewage disposal, disposal of dead, sanitary tenement and house inspection, meat, vegetable and dairy inspection, school inspection and vaccination, tuberculosis field work (including dairy work), actual epidemiologic work (including tracing of cases and sources of infection), and finally, statistical work and methods of making and filing reports.

PENNSYLVANIA

Personal.—Dr. Francis H. Brobst of Reading has sailed for a two-year trip around the world.——Dr. Samuel S. Woodburn has been appointed a member of the council of Pittsburg.

Philadelphia

Personal.—Drs. Alexander C. Abbott and D. Braden Kyle have been reappointed members of the board of health.——Dr. James A. Erwin and Mrs. F. M. Erwin sailed for Europe, June 10.——Dr. J. Louis Borsch, formerly of Philadelphia but now of Paris, has been elected ophthalmic surgeon to the Trinity Lodge Hospital in that city to fill the vacancy left by the death of Dr. Bull.——Dr. H. Brooker Mills has been elected physician to the Northern Home for Friendless Children at Philadelphia.——Dr. George Hudson-Makuen was elected president of the American Laryngological, Rhinological and Otological Society at the meeting in Atlantic City, June 3.——Drs. Ferdinand Lessing and Albert P. Brubaker have sailed for Europe.——Dr. Allen J. Smith, dean of the Medical School of the University of Pennsylvania, received the degree of LL.D. at the exercises attending the opening of the Medical School Building of McGill University.——Dr. Milton B. Hartzel received the degree of LL.D. at the commencement exercises of the State College.——Dr. Charles E. G. Shannon has been appointed assistant attending ophthalmologist to the Philadelphia General Hospital.

RHODE ISLAND

Library Cornerstone Laid.—In the presence of a notable gathering of the medical fraternity of Rhode Island, the cornerstone of the new library of the State Medical Society was laid June 1. Addresses were made by Dr. G. Alder Blumer, New Haven, Conn., and the presiding officer, Dr. Frank L. Day, Providence, who laid the cornerstone.

State Society Meeting.—The ninety-ninth annual meeting of the Rhode Island Medical Society was held in Providence, June 1, and the following officers were elected: president, Dr. Frederick T. Rogers, Providence; vice-presidents, Drs. Alexander B. Briggs, Ashaway, and John W. Keefe, Providence; secretary, Dr. Stephen A. Welch, Providence (re-elected), and treasurer, Dr. Winthrop A. Risk. Dr. G. Alder Blumer delivered the annual address entitled "A Plea for the Medical Library." At the annual dinner of the society, Dr. Arthur Hollingworth, Providence, acted as toastmaster and Dr. Shattuck, Boston, made an eloquent appeal to arouse interest and support for the library.

GENERAL NEWS

Honors to Surgeon-General.—Surgeon-General Charles F. Stokes, U. S. Navy, delivered the valedictory address at the commencement exercises of Jefferson Medical College, Philadelphia, June 5. On this occasion the college conferred on Surgeon-General Stokes the degree of LL.D. and on the following day Columbia University, New York City, gave him the degree of D.Sc.

Orthopedists Elect Officers.—At the annual meeting of the American Orthopedic Association, held in Cincinnati, May 15-17, under the presidency of Dr. Albert H. Freiberg, Cincinnati, the following officers were elected: president, Dr. Virgil P. Gibney, New York City; vice-presidents, Drs. George B. Packard, Denver, and T. Halsted Myers, New York City; secretary, Dr. Ralph R. Fitch, Rochester, N. Y.; and treasurer, Dr. Gwilym G. Davis, Philadelphia. The next meeting will be held in New York City in May, 1912.

Southern Railway Surgeons Meet.—The sixteenth annual meeting of the Association of Surgeons of the Southern Railway was held in Charlotte, N. C., May 29-30, and the following officers were elected: president, Dr. John H. Mitchell, Mount Vernon, Ill.; vice-presidents, Drs. Robert L. Gibbon, Charlotte, N. C., Reuben T. Ramsey, Elba, Va., Francis A. Webb, Calvert, Ala., and Walter R. McKinley, Columbus, Miss., and secretary and treasurer, Dr. Jacob U. Ray, Woodstock, Ala. Surgeon Charles P. Wertenbaker, U. S. P. H. and M.-H. Service, delivered an address on "Railroad Sanitation."

Medical Milk Commissions.—The fifth annual meeting of the American Association of Medical Milk Commissions was held in Philadelphia, May 23-24, under the presidency of Dr. Milton J. Rosenau, Boston, coincident with the Philadelphia Milk Show, May 20-27, and the meeting of the Certified Milk Producers' Association, May 22-23. Louisville was selected as the place of meeting for 1912. Dr. Henry Enos Tuley, Louisville, was elected president, Dr. Samuel McC. Hamill, Philadelphia, treasurer, and Dr. Otto P. Geier, Cincinnati was reelected secretary.

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Award of Marie Feodorovna Prizes.—The American Red Cross announces, in connection with the International Conference of the Red Cross, which will be held in Washington, D. C., May, 1912, that the Marie Feodorovna prizes will be awarded. These prizes represent the interest on a fund of $51,000 which the Dowager Empress of Russia established about ten years ago for the purpose of diminishing the suffering of the sick and wounded in war. Prizes are awarded at intervals of five years and at present are of the following value: one of $3,600; two of $1,530 each; and six of $510 each. The topics selected for the competition are:

1. Organization of evacuation methods for wounded on the battle field, involving as much economy as possible in bearers.
2. Surgeon's portable lavatories for war.
3. Methods of applying dressings at aid stations and in ambulances.
4. Wheeled stretchers.
5. Support for a stretcher on the back of a mule.
6. Easily portable folding stretcher.
7. Transport of wounded between men of war and hospital-vessels and the coast.
8. The best method of heating railroad cars by a system independent of steam from the locomotive.
9. The best model of a portable Roentgen-ray apparatus, permitting utilization of *x*-rays on the battle field and at the first-aid stations.

The chief prize will be awarded for the best solution of any of the subjects in question. Further information may be obtained by addressing the chairman of the exhibit committee, American Red Cross, Washington, D. C.

Circular on Acute Epidemic Poliomyelitis.—The American Orthopedic Association and American Pediatric Society have issued a circular addressed to health authorities and boards of health on anterior poliomyelitis. This circular states that the disease is communicable from one patient to another, and also by a third person; that it occurs in epidemics and tends to spread along the lines of travel; that there is reason to believe that it is prevented from spreading by quarantine and that in the opinion of the associations it should be a reportable disease. It further stated that abortive cases are of particular significance; that they are, undoubtedly, a source of infection and that their study is of much importance. In cases of infantile paralysis, other cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as suspicious. All kinds of infantile paralysis should be strictly quarantined, the sputum, urine and feces being disinfected, and the same rigid precautions adopted as in scarlet fever. The quarantine should last four weeks, in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is raised. The transportation or transfer of patients in the acute stage of the disease in public conveyances should be strictly forbidden. It would be desirable to adopt provisional quarantine measures as regards suspicious cases when an epidemic prevails in a community. All cases should be reported to the public health authorities and all deaths from this cause properly described and registered. The committee, in conclusion, advises that public health authorities make a careful study of epidemics.

FOREIGN NEWS

Physiology at High Altitudes.—The scientific laboratories on Monte Rosa, named after the late Prof. A. Mosso, of Turin, will be opened for scientific research on and after July 15, this year. There are sections devoted to physiology, botany, physics and microbacteriology, and there are nineteen posts open to research workers from all the countries or institutions which contribute to the support of the institution. Applications for reservation of a place must be sent to the director, Dr. A. Aggazzotti, Corso Raffaello 50, Turin, Italy, not later than July 1, with specifications as to the subject of research and the credentials from the government or institution.

Influence of Occupation on Development of Female Diseases.—The *Staatsministerium* in Bavaria has issued an official appeal to physicians suggesting that in all case-histories hereafter the occupation and the special trade, in particular, shall be briefly noted. It states that the influence of the occupation on development of female diseases must be studied more closely as women are becoming wage-earners in constantly larger proportions. The data accessible on this subject are not sufficient at present on which to base general conclusions. The appeal is signed by Dr. Koelsch of Munich, the medical official in the *Staatsministerium* in charge of industrial matters in Bavaria. He adds that the material already on hand to date in the various university clinical institutions might be utilized for graduation theses, and he offers his services to supply the writers with social-technical information as desired. The appeal is being published in the current German gynecologic and general medical journals, as, for instance, in the *Monatsschrift für Geburtshülfe und Gynäkologie*, April, 1911, p. 514.

Pneumonia and Phthisis in the Transvaal.—According to a report by Dr. G. D. Maynard, an inspector of the health department, Johannesburg, on the mortality among natives employed in the mines and on other work in the Transvaal, the most frequent causes of death are pneumonia and pulmonary tuberculosis. The fact is also revealed that the death-rate from these diseases among the natives recently arriving from the northerly or more tropical regions is considerably higher than among those coming from south of latitude 22 degrees S Among the East Coast natives who have not completed one month at work, pneumonia accounts for 443 per 1,000 of all deaths during the first month, while only 97 per 1,000 deaths are due to tuberculosis. At the end of a year, however, tuberculosis accounts for approximately 300 per 1,000 deaths. The conclusions of the report are that the general death-rate among all natives, tropical and others, shows a marked decrease during the first eighteen months at work. The pneumonia death-rate is at least three times as high during the first six months as it is in the second year. Tuberculosis becomes relatively more important as the length of residence in the mining districts is increased, but in spite of this, the general death-rate shows a marked falling off in magnitude.

Deaths Abroad.—In addition to those mentioned by our foreign correspondents, the following are among the prominent men who have recently died: Major Lamb, I.M.S.; University of Glasgow, Scotland, 1890, whose work in connection with the investigations of the action of Indian snake venoms has brought him just renown; died in Edinburgh, Scotland, April 13, aged 42.——V. Cozzolino, professor of ear diseases at the University of Naples, died April 18, aged 58. He has taken a leading part in late years in the campaign against tuberculosis and in the training of deaf-mutes, his last work being on this subject. He offered a prize to be awarded at the next International Congress on Otology, which is to meet at Boston in 1912, for the best work on the various aspects of lesions of the middle ear, inducing insidious, progressive deafness and tinnitus.——R. Binswanger, of the Kreuzlingen, Switzerland, sanatorium for mental diseases, founded by his father and now carried on by his sons, recently succumbed to coronary sclerosis, at the age of 61. The Binswanger family has always stood as pioneers for the principle that occupation and intercourse with the well are most important elements in treatment of mental disease. Binswanger also took a prominent part in local and national politics when matters of public moment were involved.——H. Naegli-Akerblom, privat-docent of the history of medicine, died at Geneva, Switzerland. He was born at Rio de Janeiro but has spent his life in Switzerland.——E. Hagnauer, a leading ophthalmologist at Valparaiso, Chili, of Swiss parentage, succumbed recently to angina pectoris, aged 48.——Don J. Aparici, director of the army hospital at Alcala in Spain, recently succumbed to blood poisoning from a scratch during an operation.——G. Haarmann, mayor of Witten, Prussia, since 1890, who had served several terms as member of the imperial and national legislatures, died at Witten, aged 63.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, June 3, 1911.

National Insurance Bill

In my last letter to THE JOURNAL I stated that the profession was thoroughly roused to the great danger to its interests of the national insurance bill. Evidence of this fact is increasing on all sides. Both the medical and the lay press are deluged with letters from angry physicians. A special representative meeting of the British Medical Association lasting two days and sitting on the first day from 10 a. m. until midnight has been held. Absolute unanimity obtained on all important points. The representatives agreed that there must be no control of the physicians by the friendly societies, that there must be a free choice of physicians, that a wage limit for medical attendance of $10 per week must be adopted, and that medical representation must be adequate on the controlling bodies. On the second day the Chancellor of the Exchequer, Mr. Lloyd-George, attended at the morning session for the purpose of hearing the views of the representatives and conferring with them. The proceedings were of the nature of a running conversation. He declared that the whole-hearted support of the profession was necessary for the success of the bill. He was quite in favor of the free choice of physicians. He said that an advisory committee to assist the insurance

commissioners would be set up after the passage of the bill when regulations would be framed for medical service, and there would then be ample time for consideration of details. At least one of the insurance commissioners will be a doctor. He was in favor of the freedom of physicians from control by the friendly societies, and for vesting all charges for medical benefits in the local health committees. With regard to the rate of payment, the bill did not dictate this and it would be dealt with by the insurance commissioners. With regard to the income limit he held out no hope that the proposal to fix the limit at $10 per week could be accepted by the House of Commons. Large bodies of skilled workers such as coal-miners and engineers had wages above that and at present were admitted to the friendly societies. No member of the House of Commons, unless a representative of one of the universities, would dare to propose their exclusion. It is on this question of a wage limit that the government will have the greatest difficulty in coming to an agreement with the profession. Probably all other questions can be settled by arrangement, but the wholesale conversion of private into contract practice is abhorrent to the profession, which is thoroughly united on this point. The British Medical Association has 22,000 members, which is somewhat more than half of the profession, and it represents the whole profession in the stand which it is making against the objectionable provisions of the bill. In response to a circular physicians are joining the association in unprecedentedly large numbers for the purpose of fighting the bill. Following the meeting of the representatives of the divisions of the association a mass-meeting of the profession, members and non-members, was held in London. It was attended by about 1,500 doctors and was the largest meeting ever held to consider a medico-political question. On the platform were many of the leaders of the profession; Mr. Butlin, president of the association, and also president of the Royal College of Surgeons, Sir Thomas Barlow, president of the Royal College of Physicians, Sir Victor Horsley and others. The meeting was most enthusiastic, and heartily endorsed the program of the representatives of the association. It was pointed out that if physicians presented a united front all the threatened dangers of the bill could be averted, for no matter what laws were passed their consent to the working of them was essential. Great hostility was displayed to any scheme that would place the profession under the heel of the friendly societies and one speaker was loudly cheered when he went much further and declared that the opportunity had now arisen for abolishing the system of contract practice entirely. A resolution was carried unanimously not to take part in the working of any scheme which had not previously been accepted by the British Medical Association. The only resolution on which there was any difference of opinion was that fixing the wage limit at $10. A small minority voted against this because they would have liked to go still further and fix the limit at $6. The chancellor seems to have made the mistake of imagining that because the contract system was already in vogue all it had to do was to fix the rate a little higher and be regarded as a benefactor by the profession. He was not alive to the fact that the contract system is strongly disliked and is merely tolerated. This bill has done one thing which seemed previously impossible—thoroughly united the whole profession.

Removal of Physicians from the Register for Working with Unqualified Persons

Sandow, who started as a strong man, has undergone an evolution not altogether respectable; he has passed through the stages of teacher of gymnastics and physical culture and finally has become a quack. He has established a most successful business termed the Sandow Curative Institute, to which patients are attracted by all the unscrupulous arts of the nostrum exploiter. Whole-page advertisements filled with the usual blatant humbug promising to cure all sorts of diseases have secured for him the subservience of our venal press, evidenced in disguised puffs in the form of leading articles. Even certain doctors of some standing have, I regret to say, been induced to write articles on the benefits of physical culture in general and Sandow's system in particular. But Sandow has at last gone too far. He engaged three doctors at a salary for the purpose of examining patients to ascertain whether they were fit to undergo the exercise. These doctors have now been prosecuted before the General Medical Council by the British Medical Association for associating themselves in a professional capacity with an institution which systematically advertises for the purpose of procuring patients who are to receive, either by correspondence or attendance, treatment for disease under the personal direction of Mr. Sandow, who is an unqualified person. For the defense it was put forward that the accused doctors took no share of the profits and had no part in the management of the institute. The examinations which they conducted were for the purpose of protecting the public. Sandow also said that, if the doctors should be held to have transgressed the standard of medical ethics so as to render them liable to removal from the register, he was prepared to entrust the prescribing of the treatment according to his methods to the physicians and to cease advertising in the lay press that the Sandow Institute undertakes to cure disease. The Council found the three doctors guilty, but removed the name of only one from the register, and postponed judgment in the case of the other two, giving them time to reconsider their position.

A short time ago I reported the case of a man suffering from tuberculosis of the knee who was treated by Mr. Barker, the well-known bone-setter, under an anesthetic and was obliged subsequently to have his leg amputated. The Council found the doctor who administered the anesthetic guilty and ordered the removal of his name from the register.

The Seventeenth International Congress of Medicine

Particulars as to this congress, which will be held in London, Aug. 6-12, 1913, have been given previously in THE JOURNAL, April 8, 1911, p. 1047, May 13, 1911, p. 1404, June 10, 1911, p. 1733. The following officers have been elected: president, Sir Thomas Barlow; secretary-general, Dr. W. P. Herringham, 40 Wimpole St. W.; treasurers, Sir Dyce Duckworth and Mr. G. H. Makins.

The International Association of Medical Museums

At a meeting of pathologists interested in medical museums this organization was discussed. Its objects are the interchange of museum specimens and material for research, the elevation of the medical museum as a teaching medium, and the improvement of museum technic. It maintains an exchange department and an experience department for the interchange of information. The membership is ninety-eight. After discussion the following resolutions were passed: (1) That a meeting of the association be arranged in conjunction with the International Congress on Medicine in 1913; (2) that the three great English medical societies, the Pathological Society, the Anatomical Society and Royal Society of Medicine, be requested to cooperate with special reference to the publication in their journals of news of the department of exchanges, and short reports of meetings; (3) that correspondents be appointed in London to act as local secretaries.

Total Abstinence and Longevity

The seventieth annual report of the United Kingdom Temperance and General Provident Institution is a record of continued progress. The number and amount of new policies are the largest ever issued in one year. In the general section the expected mortality for the quinquennium 1906-1910 was 2,282, and the actual mortality was 1,900 while in the temperance section (confined to total abstainers) the expected mortality was 2,291 and the actual mortality only 1,504. The surplus allows of a reversionary bonus on whole life policies with full profits at the rate of 2.1 per cent. in the temperance section and 1.7 in the general section. The report of the Sceptre Life Association shows a similar result favorable to total abstainers. For the twenty-seven years 1884-1910 the expected deaths in the general section were 3,352 and the actual deaths 2,674 (79.7 per cent.); in the temperance section the expected deaths were 2,311 and the actual deaths 1,124 (52.5 per cent.). But not only here are the figures of the temperance insurers superior over the whole period, but for every quinquennium since 1893 they show an increasing superiority. Thus for the quinquenniums 1894-98, 1899-1903, 1904-08, and the two years 1909-10 the percentage which actual deaths form of expected deaths were in the general section 79.3, 76.9, 80.8 and 80.9, while in the temperance section they were only 54.4, 52.5, 48.4 and 48.4. Thus, while the mortality in the general section shows no decline, the mortality in the temperance section shows a steady fall from 1894 to 1908. This is attributed to a larger number of the assurers in the temperance section being life abstainers and to an increasing number being the children of abstainers.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 26, 1911.

The New Codex and the Physician's Right of Prescription

The new codex the use of which was made obligatory in 1909 (THE JOURNAL, Aug. 29, 1908, p. 772) has modified on a great number of points the old formulas that we were accustomed to use and of which we understood thoroughly the mode of action. Thus, in most of the heroic medicaments our old

formulas for tinctures of 1/5 have been modified to 1/10. Other products have been more modified. Thus, in Sydenham's laudanum, two centuries old, wine has been replaced as a solvent by alcohol. Thus it has become a kind of composite tincture which has no longer the same properties as true laudanum. The tincture of iodin, which physicians have been accustomed to employ in the dilution of 1 to 13, has been made 1 to 10, which makes a very caustic drug, all the more that the old tincture was prepared with 90 per cent. alcohol while the new is to be made with 95 per cent. However this may be, these modifications would not at all inconvenience the physician if he were able to prescribe and to obtain for his patient the old preparations, the activities of which he understood perfectly and from which he could obtain therapeutic results. But this is precisely the point of difficulty. The Société de thérapeutique appointed a commission to study the matter. Dr. Albert Robin, who submitted the report of the commission, protested energetically against the narrow and Draconian way in which the new formulas have been made the standard to the exclusion of the old; in fact, the pharmacist has no right to keep in stock the products the formula of which has been modified, and honest pharmacists have several times been criminally prosecuted for merely having in stock, for example, laudanum made according to the old formula. The codex preparation is the one which the pharmacist ought to employ whenever the physician has not specified "old codex;" but if the prescriber has thought it best to give a formula of his own, the pharmacist ought to have the right to prepare in advance the products which enable him to fill prescriptions suitably and rapidly. At the end of this discussion, the society unanimously resolved to request the appointment on the commission of two members of the Société de thérapeutique who would be competent to appreciate the therapeutic properties of drugs.

The Hospital of Beaune

The fine Hôtel-Dieu of Beaune in the department of the Côte-d'Or, founded in 1443, is a magnificent specimen of the art of the fifteenth century. In spite of restorations executed during the last few years by the commission of historic monuments, new and important repairs must be made very soon if this unique monument is to be preserved. A public subscription has, therefore, been opened to cover half of the sum ($20,000 or 100,000 francs) required for the repairs, the other half being furnished by the hospital itself.

Deaths

The deaths are reported of Dr. Arthur Fallot, professor of hygiene and of legal medicine at the Ecole de médecine de Marseille, and of Dr. Bressard, professor of internal pathology at the Ecole de médecine de Poitiers.

Cytodiagnosis in Gastric Diseases

In one of the last sessions of the Société médicale des hôpitaux de Paris, Dr. Maurice Loeper, *agrégé* professor at the Faculté de médecine de Paris, communicated the results of investigations which he made in collaboration with Dr. E. Binet of Vichy, on the cellular elements contained in the lavage liquid of the fasting stomach. In the normal state, except during digestion, one finds in this liquid hardly anything except cellular detritus and ill-characterized nuclear and protoplasmic débris. In cases of gastric ulcer there are found in the same liquid, even in the intervals between hemorrhages, red globules, epithelial cells and leukocytes. In gastritis, one finds white globules of every kind, glandular elements which are quite recognizable and some of which are very granular. The lavage liquid from gastric cancer is rich in large and average-sized cells, strongly colored, very resistant, often multinucleated and very rich in glycogen. Among aerophages and sialophages, one finds a great number of pavement cells from the superior tract. Cytodiagnosis, therefore, is of interest, not only to practical pathology, but also to general pathology, since it permits of the isolation of all latent gastric conditions and even of true mild gastritis from the confused group of the dyspepsias.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 27, 1911.

Personal

Professor Fritsch, the renowned gynecologist of Bonn, will resign his position, October 1, on account of sickness.

Professor Abderhalden, professor of physiology at the Berlin veterinary college, has received a call to Halle to fill the chair of Professor Bernstein.

Professor Pohl of Prague has been appointed director of the institute of pharmacology at Breslau in place of Professor Filehne.

The successor of Professor Hensen at Kiel is Professor Bethe, first assistant at the institute of physiology at the university of Strasburg. He assumes his duties as director of the institute of physiology at Kiel during the summer semester. This appointment does not lack special interest. It has been a subject of repeated complaint in the *Deutsche medicinische Wochenschrift* that original investigators in physiology received no recognition in the appointments to regular professorships, and that therefore physiology lagged behind in the German universities as compared with those of foreign countries, particularly when compared with the laboratories of America. Among other things the complaint was made that such an investigator as J. Loeb had been allowed to remove to a foreign country and that a talented scientist like Bethe would apparently stay as privat-docent in Strasburg all his life. There is little doubt that this promotion to Kiel has made an impression; at any rate it is a source of satisfaction that an investigator like Bethe has been called to an independent position. He is at present 39 years old.

A few days ago the curator of the university of Marburg, Professor Schmidtmann, died suddenly at the age of 60. Up to April 1 of last year he was a distinguished councillor in the medical section of the Prussian state department of education, and his call to Marburg excited some comment because it was the first time that the position of curator of a university which heretofore has always been in the hands of the management, has been given to a medical man. Schmidtmann belonged to the medical section fifteen years. According to report he left the position on account of his health, but others intimate that he was worsted in a dispute with the head of the medical section and with a colleague in the department. He had performed special services in his ministerial position in connection with water supply and sewage disposal. He was instrumental in founding a government testing laboratory for this department; this employed almost thirty physicians, chemists, botanists, zoologists and experts in water-supply engineering. Among his many literary works is a handbook of legal medicine (*Handbuch der gerichtlichen Medizin*).

Professor E. Remak died suddenly, May 26, at the age of 62. He was the son of the renowned physiologist and neurologist, Robert Remak, one of the most notable pupils of J. Müller and Schönlein. Ernst Remak received his training in neurology as assistant of Professor Westphal at the Berlin Charité. In his special field he published a series of noteworthy articles, on the clinical aspects of tabes, muscle atrophy, and the reaction of degeneration. His larger works include one on the principles of electrotherapy and electrodiagnosis and a monograph on neuritis and polyneuritis in the Nothnagel Collection.

Privy Councillor H. Rehn, the senior of German pediatrists, of Frankfurt a. M., a brother of the well-known surgeon of the same place, celebrated his eightieth birthday, May 20.——Privy councillor Dr. Götz, of Leipsic, who has won great distinction in the development of German gymnastics, was made an honorary doctor of philosophy at Kiel on the occasion of his eighty-fifth birthday.

Bill for Optional Cremation

This bill the fate of which I reported to be very dubious has, contrary to expectations, received the small majority of two votes in the Prussian lower house of parliament. An important factor in this result was the attitude of a part of the conservatives who although they are in other matters noted for their obstructive tendencies in religious affairs, voted for this bill because, as their representative with remarkable candor announced, they were of the opinion that cremation was not opposed to the teachings of the Christian religion or to the principles of the conservative party and had nothing to do with politics. For the final passage of the law it is still necessary that the upper house should approve it and a majority of the members are conservative. Still from the action of the lower house the hope may be entertained that the vote will also be favorable to the bill.

Pay Ward in Charlottenburg

Like Berlin, the city Charlottenburg is contemplating the erection of a pavilion in the city hospital for paying patients of the second class. The expenses of building a ward with fifty beds is estimated at $135,000 (540,000 marks). The charges for care will be placed at $2.00 a day for citizens of Charlottenburg and $2.50 (10 marks) for strangers. The physicians in charge will have the right to fees according to the prices fixed by the medical societies.

International Congress for Infant Welfare

The third international infant welfare congress will assemble this year at Berlin September 11-15. It is under the protection of the empress who has shown the liveliest interest in the movement to combat the mortality of infants. The imperial chancellor has accepted the honorary presidency of the congress and the chairman of the committee on organization is Dr. Bumm, the head of the imperial health office. The various departments include instruction and teaching, practical measures, legislation and general management, guardianship, and statistics. The following papers are provided for the different sections: instruction of physicians in the field of hygiene and diseases of children; instruction and postgraduate education of midwives in the care and treatment of infants; training of nurses for institutions, families and communities; instruction of the people in the care and feeding of infants; care for pregnant and puerperal women; hygienic stations and nursing dispensaries; milk stations and their results; crèches; closed hospitals for the care of infants; asylums and homes; rural infant hygiene; infant hygiene in legislation and administration; motherhood insurance; care of foundlings and illegitimate children; isolation of syphilitic children; production and control of milk for infants; the international relations of guardianship and the Hague convention; the legal procedure to establish the rights of illegitimate children in foreign countries; their legal position in the most important European countries; mortality, morbidity and birth statistics in various countries, and formulation of a uniform scheme for collecting international statistics of infant mortality and statistics of the success of hygienic measures.

No Change in the Vaccination Law

The renewed attempt of our antivaccinationists to secure a change in the vaccination law and especially the introduction of a conscience clause or at least the appointment of a committee to investigate the vaccination question, again has woefully miscarried. After a final debate, a few days ago, all of the proposals were settled by laying them on the table (passing to the order of the day). This was done in spite of the fact that speakers from almost all the political parties expressed themselves in favor of the propositions of the antivaccinationists. But it may be remarked with satisfaction that the majority of our popular representatives took the standpoint of genuine science on this question and did not yield to the agitation of an unscrupulous antivaccination party. That the latter will not be reconciled to this defeat but will continue their agitation and as soon as possible appear before the Reichstag with a new petition, may be regarded as certain.

Protest Against the Principle of "Tag Days"

A number of distinguished persons, prominent in social charities, have made a serious protest against setting aside a day for aid of children's philanthropies by means of the sale of flowers, which I have mentioned in the previous letter. This protest contains the following considerations: "Such arrangements cause more injury than wholesome effect, whatever may be their financial success, for they weaken the sentiment for intentional and well-planned charity and hinder the well-to-do classes, who are able to help, from receiving the education necessary to a deeper understanding and more serious conception of our social relations. The charitable organizations, whose duty it is above all others, to awaken and sharpen the conscience of all classes regarding the evils with which they are especially acquainted, neglect this duty when they use external incitements to arouse a disposition to give which is prompted by no knowledge of the evil itself; they help to lessen the social sense of responsibility rather than to deepen it. For the young girls who assist, the flower day signifies a confusion of their moral and social ideas since it can have no material success without some sort of festivity. Social obligation should mean to them a serious matter which requires the internal devotion of their personality and not a feast which cannot dispense with external excitements and satisfaction. The attempt is being made to prohibit street selling by children. How can we urge this, if in the service of social needs young girls, perhaps even school children, are exposed to these dangers, and especially in the metropolis. Those who need our help will be injured by this kind of alms-collection. We ought to meet their needs with holy earnestness and the help that we wish to bring them should not be made dependent on public appeals which are not conducted with similar seriousness. The giver also is led astray in a certain sense. He ought to give from an honorable sympathy and appreciation of social aid, not in a jovial, festive mood, following the impulse of the moment. In our time with its social trend, the lust for pleasure, frivolity and ambition ought not to be awakened or nourished in securing the necessary means for philanthropic purposes. Other methods must be sought and in the course of experience ways will be found by which the more serious purpose will be awakened and strengthened and will be led to blessed social accomplishments." The justness of these views, in general, certainly cannot be controverted, but how then can the money for the private assistance of public charity be collected, money which is indeed necessary as the state alone cannot support charity, and other methods of getting money, such as bazaars and similar arrangements, are not only objectionable on the same grounds, but have become exhausted in consequence of too frequent employment. For this reason we do not believe that the protest will result in any interruption of the success of the flower days.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 29, 1911.

Medical Wishes for New Laws

Just now a committee of medical men, comprising the representatives of the various Austrian medical organizations, is working in Vienna against the proposed new "public law act," which will be the first thing for the new parliament to deal with. The efforts of the profession are directed towards the elimination of certain clauses and articles contained in the old Codex and taken over into the new act. The following resolutions have been accepted unanimously by the committee and will be forwarded to the government: 1. The profession objects, both in its own interest and in that of the general public, to the obligation to render medical aid in all instances (*Berufszwang*). 2. The profession protests against being dependent on the opinion of lay persons in affairs pertaining to the art of caring for its teaching and its practicing. 3. Physicians protest against the obstacles placed in their way by certain inhuman laws, when they treat and cure patients; especially do they protest against the grotesque condition of absolute professional secrecy imposed by one law, which condition is nullified by other clauses of the same law; also to the law which, under certain conditions, requires a doctor to report to the police a patient who, perhaps, has called the doctor in fear of death. Such a state of affairs converts the doctor into a police agent, and is absolutely abominable and unacceptable for the profession. The special and distinguished position of the medical profession requires a special and distinguished handling of its relations to the public in general. The profession also urgently requests a suitable law against quackery and patent medicine fakes.

The committee resolved to establish central archives for the collection and study of all decisions of a juristic, social, economical and ethical nature, pertaining to the members of the profession or its art. All doctors of the empire will be requested to collaborate in this work and to communicate with this institute also in case of an unjust assessment of rates and taxes of a doctor.

Hypnotic Experiments in Vienna

A series of lectures on hypnotic experiments and similar conditions was delivered some time ago before a lay audience, until the experiments resulted in serious mental derangement of a few persons. The lecturer, a non-medical man, invited those present to come up and allow him to throw them into the state of hypnotic sleep. Whilst he succeeded in doing so, on one night he was unable to remove the spell from one woman. His anxiety caused several other women to faint, and the police had to interfere to prevent further mischief. A similar incident occurred a year or two ago in Budapest, where a young woman died as a result of a hypnotic experiment. Public indignation, as well as scientific protests against such demonstrations, has prompted the police to stop all such lectures. In medical circles it was a matter of severe criticism that no medical association had been asked to pass on the admissibility of lectures of such a nature. The woman referred to above had to be taken into a hospital for nervous diseases for prolonged treatment.

A Remarkable Judgment in Favor of Medical Opinion

Some time ago a patient suffering from caries of the tibia was advised by a surgeon to undergo an operation. He was willing, but on advice of a friend, he declined to do so. The patient died soon afterward, and necropsy revealed that death was due to thrombosis of veins, originating from the affected part. The good friend thereupon was charged with having wilfully prevented the patient from obtaining help and was

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sent to prison for two months; the judge said that the friend's action was very near intentional murder. The incident will, no doubt, give vantage-ground against quacks, who hitherto have enjoyed a fair amount of indulgence with our courts.

Association News

THE LOS ANGELES SESSION

Other Medical Alumni Reunions

The following announcements have been received, in addition to those already given in THE JOURNAL:

A banquet for all University of Pennsylvania Alumni, who may be visiting Los Angeles, during the sessions of the American Medical Association, June 27-30, will be held at the Hotel Alexandria, corner Spring and Fifth Streets, at 6:30 o'clock, Tuesday, June 27. The price for each plate will be $5.00. All "Pennsylvania men" are asked to notify the undersigned immediately of their intention to attend the banquet, and if possible, to send check or money order, inasmuch as some definite idea must be obtained of the exact number for whom provision is to be made.

The banquet will be addressed by some of America's greatest physicians and surgeons, graduates of "Old Penn", and an enthusiastic and worth-while time is promised. It is further suggested that each alumnus forward the year of his class.

T. PERCEVAL GERSON, M.D.
1011 W. P. Story Building, Los Angeles.
Secretary and Treasurer, University of Pennsylvania Alumni Society of the Pacific Southwest.

The alumni of Rush Medical College will meet at a smoker and reunion on alumni night, June 27, 1911, at Casaverduga at Glendale. Special cars will convey the alumni to the place of meeting. Further information will be furnished at the place of registration.

B. M. LINNELL, M.D., 32 N. State Street, Chicago.

Miscellany

Qualities of Chinese Medical Students.—Jeffreys and Maxwell, in their book on "Diseases of China," state: "The native Chinese has many qualifications for making a worthy practitioner of scientific medicine, and, like the Japanese, may be depended on to enhance the honor of our great profession by adding the strength of native talent to the sum total. We find the following characteristics exemplified among our students and assistants and have reason for believing that they represent the average of the best: excellent memory for facts and detail; faithfulness in carrying out methods once adopted; marked powers of observation; and the most extraordinary devotion to the principle of hard work that we have ever seen among any people; great delicacy in all operations involving the use of the hands, and particular fitness for, and adaptability to, the intricate and time-consuming problems of original investigation, and especially the use of the microscope. We have had students to whom the microscope became the recreation of life and to whom the power of observation was apparently a part of Nature. On the other side of the account we must write down a considerable shortage in the matter of professional judgment and in ability to organize, control and discipline their own subordinates; a tendency to do the operation as laid down in the book without balanced application to the individual; and an overwhelming tendency on the part of some to adopt the methods of quackery and charlatanism. But we must guard this statement by emphasizing the fact that this is only applicable to individuals and that it is merely more prominent as a fault than among our own fellow-countrymen. We have the highest respect for our own assistants, who never fail in courtesy, in loyalty or in application. The day will come when they must take their place as chiefs, as colleagues on an equal footing with ourselves, when they must take on themselves the burden of directing the ministry of medicine among their own people; and we face it with considerable confidence."

Heredity and Epilepsy.—The field workers of the New Jersey State Village for Epileptics (Thirteenth Annual Report, Oct. 31, 1910) in a canvass of thirteen counties of the state, found in the families of 137 patients, 328 epileptics, or an average of 2.4 for each family. The total number of defectives charted was 1,253. Inheritance was found as follows: alcoholic, 69; blind, 18; Bright's disease, 22; cancer, 27; criminal, 5; deaf, 25; epileptic, 57; feeble-minded, 29; insane, 37; migraine, 12; neurotic, 30; paralysis and apoplexy, 43; suicide, 9; syphilis, 4; and tuberculosis, 75. Of 30 children whose fathers or mothers are patients at the institution, 6 are epileptic, 2 feeble-minded, 2 insane, 3 died in infancy, 3 neurotic, 1 tuberculous, 4 undetermined and 9 normal, some of whom may develop epileptic seizures later in life, or have a mental breakdown under stress of harsh conditions. The charts also show that in instances in which the parents are both epileptic or feeble-minded, or one epileptic and one feeble-minded, all the children will be either feeble-minded or epileptic. A study of the charts of the most completely known pedigrees indicates that the normal parents of epileptic offspring have come from families with defective ancestry. With the fact established that heredity plays a large part in the production of these defectives, the report emphasizes the fact that the state should protect itself by the passage of laws that will prevent reproduction of other epileptics. This may be accomplished in one of two ways: either by placing under permanent custodial care, or by sterilization of all epileptics. Concerning the use of the continuous bath in the institution, it is stated that the cases selected for treatment in the continuous bath were those of status epilepticus, serial attacks, postepileptic mania, circular insanity and hysteria major. The results obtained have been gratifying, and were obtained more rapidly than when medicinal agents were employed, and without the after-effect and depression which accompany the use of drugs. The patient usually went into a natural sleep, and awakened refreshed in body and mind, and without digestive disturbances, which generally follow medicinal treatment. In brief, it might be said of the use of the continuous bath, that it has the following advantages over medicinal remedies: It is applicable to all cases; the results are rapidly and uniformly obtained; it is always under control; it is easily administered; it has no bad after-effects; the respiratory system is unaffected; the digestion is not disturbed; the circulatory system retains its equilibrium, and the bath may be continued over a long period of time without depression.

Civil Responsibility of the Surgeon.—"Whatever you do, don't leave a sponge or anything else in the abdomen of your patient," exclaims P. Raugé in an article quoted in the *Gazette Médicale Belge*. "That is the unpardonable sin from the standpoint of the public," he declares, "and it may lead to the direst consequences, as witness the case of Professor Bazy, the irreproachable clinician, the skilled operator and the most conscientious of men." (The case was mentioned in the Paris Letter, Jan. 14, 1911, page 130.) "If he had made a mistake in diagnosis or blundered in operating, no one would have complained, but to leave two compresses in the abdomen! The patient, the crowd, the daily papers, the lawyers and finally the judge all take up the cry and condemn the surgeon. If they didn't, what might not surgeons leave in the abdomens of their patients! It is not to be taken into account, naturally, that the operation saved the life of the patient and that she has been in excellent health since and that the passage of the compresses never caused her the slightest disturbances during their alleged silent progress into the intestine and alleged final evacuation. But here they are at last, and Bazy is confounded. The operation was done at the public hospital, free of charge, and the fine of $1,000 imposed on the surgeon was not for damages but to serve as a lesson to him and to all surgeons to 'go and sin no more. And consider yourself fortunate to get off so easily.' The decision in this case is a slap in the face for the entire medical profession. It says plainly that our skill and our con-

scientiousness no longer suffice to guide us in our professional conduct. We need judges to warn us of our deviations from the straight path of rectitude and show us the right road." "No, and never," he exclaims in conclusion, "do we need such warnings from outside. Our conscience is our guide and mentor, and the public, holding us to such a strict account, can never know the anguish we experience over a dubious diagnosis, a difficult decision, an emergency operation, hoping against hope. And the judges who condemn us might be less severe if they stood beside a sick or dying man with their bistoury in hand. They would appreciate then what medical responsibility really is, and they would understand then, perhaps, that we have to sustain and guide us in our practice something better and higher than the dread of a suit for malpractice."

Diploma Mill Wanted.—The following amusing letter is quoted from the *Rush Alumni Association Bulletin:*

Dr. Christian Fenger, Dear Sir:—Please accept of My hand writting though I hav'nt been in touch with you as to write you before.
But at this time I write you for a Diploma of being a family Doctor. I have purchased a family Medical Book from Sears Roebuck and I have Studied it for two (2) years and I have been Examined by Doctor ——— and I Desires to Give Rush Medical College Honor for what I know, and that is why I asked for a Diploma from that College. I have been Teaching for twelve (12) years and I believe I am Prepaired to do the work. I will give you One Dollar and a half ($1.50) for the Diploma if you will Except of My request Please let Me hear from you by return Mail.

Two Facts Regarding Vaccination.—In the Philadelphia *Public Ledger*, May 21, is a letter from Dr. W. W. Keen, in which he presents some facts regarding vaccination against small-pox and typhoid fever. What he states regarding small-pox vaccination is worth quoting: "One of my old students at the Jefferson Medical College, Dr. Victor G. Heiser, is in charge of the sanitation of the whole of the Philippine Islands. He has accomplished there a work which can be favorably compared with that of Colonel Gorgas on the isthmus. When in this city about eighteen months ago he told me that in seven provinces in and around Manila there were annually about 6,000 deaths from small-pox, which would mean 25,000 to 30,000 cases every year. But in the twelve months following the completion of the vaccination of all the population, there was not a single death from small-pox in the same provinces. Could there be a better demonstration of its value as a preventive? Moreover, he stated that in over 5,000,000 vaccinations in the Philippines, in spite of their frequent neglect of the slight sores which are necessarily produced by the operation, and of the uncleanly habits of a large number of the inhabitants, not one single death had occurred, the finest record of any similar wholesale vaccination in the world. In your issue for May 7, also, in the first page of the Magazine Section in Professor Turner's paper on the 'Abolition of Slavery in Pennsylvania,' are published facsimiles of some advertisements which appeared in Philadelphia before the days of vaccination. Among them is one which to-day would be utterly absurd. It reads 'Lately imported from Antigua (as though they were cigars or coffee) and to be sold . . . a parcel of likely negro women and girls from 13 to 21 years of age, who have all had the small-pox.' Such an advertisement at the present day would be unthinkable. It added to the value of a slave in those days to have had small-pox. To-day nobody thinks of any one ever being liable to small-pox, except those who neglect vaccination. I commend this experience of Dr. Heiser in the Philippines and this advertisement from your paper to the attention of our antivaccination friends."

Arteriovenous Anastomosis for Senile Gangrene.—J. Abalos adds another to his previously reported case of this kind. In his first patient the disturbance reappeared three weeks after the anastomosis, and amputation became necessary. In the present case the patient was a man 68 years old, free from morbid antecedents but a great smoker. One leg had been amputated, six months before, for gangrene commencing in the foot, and one toe of the remaining leg was now developing gangrene. The femoral vein and artery were then sutured, end-to-end, under local anesthesia. The blood poured at once into the vein but was arrested by a coagulum. The vein was consequently opened 1 cm. below the anastomosis, the coagulum presenting in the slit, and it was promptly expelled by the pressure of the blood behind, after which the vein was sutured. The functional results have been perfect to date of writing, twenty-four days after the anastomosis. The gangrene seems to have been arrested and the toe will soon be amputated. The case is reported in the *Semana Medica*, 1911, xviii, 629.

Disease and Longevity.—"Man's constitution shows that he is a long-lived being. For his development there must have been a period when the natural span of life was more fully realized than in the recent past. Disease in its present forms is a result of historic conditions. Especially is this true of the great epidemics that have so much shortened life. Filth comes mainly through overcrowding; contagious diseases could not have antedated it. When the world was sparsely populated and the natural surplus large, a mature old age must have been the general expectation. Infant mortality was doubtless large; but this would not have much influence on social organization if this dangerous period was followed by a long period of vigorous manhood. Old age would also, as with animals, quickly lead to death. The young and vigorous would thus set the pace and shape social and religious usage. Then youth and vigor were long and old age short; now, youth is but a passing moment and old age an enduring, hopeless epoch. With us the senile hand is on every institution and influences every social event. It is not to be wondered that religion has reflected this change and has become a thing of age and grief." (From Patten's "The Social Basis of Religion," New York, 1911.)

Poisoning from Bite of Spider.—S. Mazza of Buenos Aires has made a special study of the nervous and cutaneous manifestations of poisoning from the bite of spiders or arachnoidism, and in the *Semana Medica* (1911, xviii, 641), reports a case in which there were eruption and desquamation resembling that of scarlet fever. The syndrome was differentiated principally by the necrotic lesion at the point of the bite and the intense pain that accompanied it. In some points the syndrome resembled malignant pustule, while the hemorrhagic jaundice and prostration in some cases suggested yellow fever at first. There was no epistaxis or hematuria in his last case, as in infectious purpura, and the spleen was not enlarged, while there was a 3 per cent. eosinophilia. The patient was a boy of 10 who had had scarlet fever some years before. Pino's patient was a man and besides the eruption, fever and vomiting there were also hematuria and jaundice. Both patients recovered. The case reported here with numerous illustrations is Mazza's fourth case of severe arachnoidism.

Syphilis and Tuberculosis.—When a consumptive is already much reduced by the mixed infection of advanced phthisis, his constitution is too greatly undermined to endure the addition of still another infectious process. He is, moreover, in no condition to stand vigorous antisyphilitic medication. When, on the contrary, a person in the third stage of lues becomes smitten also with tuberculosis, his lungs resist the destructive tendency of the latter process because probably of the tendency to fibrosis manifested in the late period of lues. In many cases the general health does not seem seriously impaired in this stage, or at all events so reduced as to render it incapable of offering some degree of resistance to the tuberculosis.—R. H. Babcock, in *Interstate Medical Journal.*

Treatment of Neurasthenia in Children.—The treatment of the neurasthenic boy or girl resolves itself, according to C. Riviere, in the *Practitioner*, into the removal of the cause, whether over-pressure or want of sleep, or both. Change to country air and country pursuits, with cheerful company and a quiet life, will generally complete the cure in these cases unless the damage done is of considerable extent. An open, dry locality should be chosen, with much sun and little foilage, so that abundant time may be spent out of doors. Long hours in bed must be provided, cold bathing is useful, and the work of the digestive organs must be studied. In cases in which nutrition is very low a full Weir-Mitchell treatment may be advisable or necessary.

Skin Fixation in Cancer of the Breast.—H. M. Rigby states in the *Practitioner* that of the physical signs the most important, in his opinion, is the tethering of the skin at some point overlying the tumor. When this is present the diagnosis of cancer, he believes, is almost certain. The skin need not actually be dimpled or retracted. The abnormal fixation of the subcutaneous tissues can often be detected some time before the growth has actually approached the surface of the breast. An acute inflammatory condition may certainly cause some fixation of the skin due to infiltration of the subcutaneous tissue. But with this can generally be seen other signs of inflammation, some discoloration of the skin, edema and local heat. Actual dimpling of the skin is diagnostic of cancer.

Annular Stricture of Rectum.—This type of stricture is usually due to traumatism, simple ulceration, tuberculosis or dysentery; it begins abruptly and usually surrounds the entire rectum; it is movable when the patient is squatting or in a semiprone position; there is a sulcus around it into which a probe or bougie is much more liable to pass than into the caliber of the stricture; there is always mucous discharge, ulceration and secretions which are less than in tubular strictures. It is this type of stricture that follows acute or tuberculous ulceration of the rectum chiefly.—J. P. Tuttle, in *Boston Medical and Surgical Journal.*

"Are Soon Parted."—One is reminded of the old proverb ending in these words on reading that the board of health at Mannheim, Germany, has felt obliged to issue a warning to the public not to send 75 cents in response to certain advertisements in the lay papers offering a cure for snoring. The applicant receives for his money merely a strip of gummed paper with the directions to glue it over his mouth.

Marriages

CHARLES R. MITCHELL, M.D., Paterson, N. J., to Miss Kathleen O'Meara of Fallowfield, Ont., in New York City, April 26.

WILLIAM EDWARD BANNEN, M.D., New Albia, Ia., to Miss May James of LaCrosse, Wis., June 1.

JAMES LINCOLN HUNTINGTON, M.D., Boston, to Miss Sarah Higginson Pierce of Brookline, Mass., June 1.

AUGUST FERDINAND RIES, M.D., Baltimore, to Miss Fannie Morris Gardner of New Rochelle, N. Y., February 16.

CHARLES F. KUHN, M.D., to Miss Ella Meinke, both of Detroit, May 31.

FRANK CLIFFORD ARD, M.D., Plainfield, N. J., to Miss Idah Catherine Chappelle of Rivervale, N. J., June 5.

WALTER ESTELL LEE, M.D., Philadelphia, to Miss Margaret Gordon of Germantown, Philadelphia, June 14.

EARL JOHN BYERS, Chicago, to Miss Ruth Birge of Grand Rapids, Mich., May 24.

ALBERT M. DUNLAP, M.D., to Miss Eva Wyman, both of Boston, June 1.

Deaths

Joseph Price, M.D., a pioneer in American gynecology and abdominal surgery and one of the most prominent specialists of Philadelphia; died, June 6, four hours after an operation for acute suppurative appendicitis, aged 58. He was born in Rockingham County, Va., Jan. 1, 1853; took his medical course in the University of Pennsylvania and was graduated in 1877. From the time of his graduation he devoted himself to surgery and gynecology and, with Dr. Penrose, founded the Gynecean Hospital and later on succeeded Dr. William Goodell as head of the Preston Retreat. He was a member of the American Medical Association and of the American Gynecological Society, and was a very powerful and trenchant contributor to the literature of his specialty. Although an invalid and confined to the house for two weeks, as the result of overwork, he rose from his bed and operated on a girl patient for appendicitis at the Price Private Hospital. Four hours after this operation he collapsed and, although immediate appendectomy was performed, he did not rally and died four hours later.

Samuel Erskine Maynard, M.D. University of Vermont, Burlington, 1891; a member of the American Medical Association and New England Association of Railway Surgeons; formerly president of the Burlington Clinical Society; one of the best-known practitioners of Burlington, Vt.; division surgeon of the Rutland Railroad and surgeon of the Central Vermont System; professor of gynecology in his alma mater and formerly adjunct professor of theory and practice of medicine and physical diagnosis in the same institution; surgeon to the Mary Fletcher and Fannie Allen Hospitals; died in the Mary Fletcher Hospital, May 26, a day after an operation for appendicitis, aged 42.

Edwin R. Phillip, M.D. University of Michigan, 1861; College of Physicians and Surgeons, New York City, 1866; emeritus professor of gynecology in Hamline University; a member of the Minnesota State Medical Association; surgeon of the Vermont Volunteers during the Civil War; for more than forty years a practitioner of Minneapolis; died in St. Barnabas Hospital in that city, May 31, aged 78.

Everard A. S. Carrington, M.D. College of Physicians and Surgeons, Boston (Mass.), 1907; McGill University, Montreal, 1909; afterward a student in the Liverpool School of Tropical Medicine; a member of the staff of the Public Hospital, Georgetown, Barbadoes, W. I.; died Oct. 15, 1910, after an operation for appendicitis, aged 30.

Augustus J. Lyons, M.D. Baltimore (Md.) Medical College, 1896; since 1901 superintendent of the Second Hospital for the Insane of West Virginia, Spencer; local surgeon of the Baltimore and Ohio System; formerly chairman of the committee of health of Parkersburg; died at his home in Spencer, June 1, from quinsy, aged 38.

Albert Stead Green, M.D. Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association; consulting physician to the Rockford, Ill., Hospital; died at his home in that city, June 1, from heart disease following an attack of influenza, aged 58.

Horace Brand Cole, M.D. Baltimore (Md.) Medical College, 1893; a member of the Missouri State Medical Association; for six years a member of the Sedalia Board of Education and staff physician of the Maywood Hospital; died in that institution, June 3, from typhoid fever, aged 49.

James A. Hall, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1880; a veteran of the Civil War; for twenty-five years a practitioner of Miltonvale, Kan., and postmaster of that city for ten years; died at his home, May 30, from chronic interstitial nephritis, aged 65.

Marcus Ray Peck, M.D. New York University, New York City, 1890; of Colville, Wash.; surgeon to Stevens County Hospital; formerly local pension examining surgeon, and surgeon of the San Francisco and Northern Railroad; was found dead in his bed, May 19, aged 43.

Emma Wilson Mooers, M.D. University of Michigan, Ann Arbor, 1884; a member of the American Medical Association; curator of the neuropathologic department of Harvard Medical School, Boston; died, May 31, from septicemia due to an autopsy wound.

Henry Clay Angell, M.D. Hahnemann Medical College, Philadelphia, 1853; for twenty years professor of ophthalmology in Boston University and the author of several text-books on diseases of the eye; died at his home in Boston, May 27, aged 81.

Abram Miller Henkle, M.D. University of Pennsylvania, Philadelphia, 1873; formerly of Winchester, Va., but for the last twenty-eight years a practitioner of Winter Park, Fla.; died recently at his home in that place, from heart disease, aged 64.

T. G. Greer, M.D. Atlanta (Ga.) Medical College, 1869; one of the oldest practitioners of Roswell, Ga.; mayor of that town for several terms and president of the school board for fifteen years; died at his home, May 21, aged 74.

Charles Herbert Moore, M.D. New York University, New York City, 1888; president of the village of Oakfield, Wis., and, until very recently, president of the school board; died at his home, June 2, from tuberculosis, aged 41.

Washburn Tilson, M.D. Chicago Homeopathic Medical College, 1890; of Lafayette, Ind.; at one time coroner of Tippecanoe County; died at St. Elizabeth's Hospital, Lafayette, May 26, from angina pectoris, aged 45.

John Law, M.D. Northwestern University Medical School, Chicago, 1868; formerly local surgeon for the Colorado Midland Railway, and Surgeon to St. Luke's Hospital, Leadville Colo.; died in Denver, May 28, aged 66.

Seabron Edward York, M.D. Kentucky School of Medicine, Louisville, 1876; for many years a practitioner of Limestone County, Ala., and for nine years postmaster of Athens; died at his home in that place, May 26.

Ellis G. Roberts, M.D. University of Pennsylvania, Philadelphia, 1884; a member of the American Medical Association; died at his home in Fair Haven, Vt., May 29, from disease of the stomach, aged 61.

Benjamin M. Bond, M.D. Missouri Medical College, St. Louis, 1855; surgeon of volunteers during the Civil War; for many years a practitioner of Bellingham, Wash.; died February 28, from senile debility, aged 84.

Henry M. Crouse, M.D. Western Reserve University, Cleveland, 1856; surgeon of the Fifty-Seventh Indiana Volunteer Infantry during the Civil War; died at his home in Knightstown, May 29, aged 81.

William Nathan Wickwire, M.D. University of Edinburgh, Scotland, 1864; for twenty-five years chief medical officer of the Port of Halifax, N. S.; died at his home in that city, March 31, aged 72.

James C. Holland, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; a veteran of the Civil War; formerly of Des Moines County, Ia.; died at his home in Denver, Colo., May 26, aged 70.

Benjamin Perrine Marsh, M.D. Hahnemann Medical College, Chicago, 1875; a member of the U. S. Sanitary Commission during the Civil War; died at his home in Bloomington, Ill., May 30, aged 70.

James Hunter Sale, M.D. University of Nashville (Tenn.), 1870; for many years a practitioner of Galloway County, Ky.; died suddenly at his home in Murray, June 2, from heart disease, aged 74.

Daniel Smith Anderson, M.D. New York University, New York City, 1889, a member of the Medical Society of the State of New York; died at his home in Owego, May 21, aged 45.

Norman Rhinehart Hook, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; a veteran of the Civil War; died at his home in Oskaloosa, Ia., June 3, from heart disease, aged 67.

David Smith Hunnewell, M.D. Medical School of Maine, Brunswick, 1866; for twenty-nine years a practitioner of Madison, Me.; died at his home in that city, May 31, aged 71.

Nelson B. Wilson, M.D. Cleveland University of Medicine and Surgery, 1865; in 1870 lecturer on pathology in his alma mater; died at his home in Cleveland in March, aged 87.

Samuel Marmaduke Dent, M.D. Baltimore (Md.) Medical College, 1902; of Riversville, W. Va.; died at the home of his parents in Granville, May 31, from tuberculosis, aged 34.

Henry N. Fair, M.D. Reform Medical College of Georgia, Atlanta, 1870; died at his home in St. Matthews, S. C., May 24, from cerebral hemorrhage, aged 61.

Francis J. Weller, M.D. Harvard Medical School, Boston, 1892; a throat and ear specialist of South Boston, Mass.; died at his home, May 29, aged 49.

Edgar C. Parsons, M.D. Hahnemann Medical College, Philadelphia, 1877; a practitioner since 1874; died at his home in Meadville, Pa., June 1, aged 63.

Van E. De Sashmutt, M.D. University of Maryland, Baltimore, 1854; since 1871 a practitioner of Shelburn, Ind.; died at his home, May 25, aged 79.

James Benjamin Rice, M.D. Detroit (Mich.) College of Medicine, 1901; died in his apartments in Flint, Mich., May 31, from heart disease, aged 46.

Henry E. Walet, M.D. Tulane University, New Orleans, 1890; died at his home in Loreauville, La., April 15, from pneumonia, aged 43.

J. E. Jewell, M.D. College of Physicians and Surgeons, Baltimore (Md.) 1881; of Portland, Ore.; died suddenly at Mount Tabor, Ore., May 24.

John S. Crabtree, M.D. Medico-Chirurgical College of Kansas City, Mo., 1903; died at his home in Collinsville, Okla., May 31.

Theodore L. Myers, M.D. University of Alabama, Mobile, 1870; died at his home in Biloxi, Miss., Sept. 17, 1910, aged 65.

William Delker, M.D. Jefferson Medical College, 1884; died at his home in South Philadelphia, May 31, aged 59.

Jesse L. Conant, M.D. Detroit Medical College, 1881; died at his home in Weiser, Idaho, January 8, aged 80.

David W. Collins, M.D. University of Louisville, 1882; died at his home in Pueblo, Colo., May 25, aged 56.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE SUPREME COURT AND THE FOOD AND DRUGS ACT

The Full Text of the Majority and Dissenting Opinions

MAJORITY DECISION

The United States, Plaintiff in Error, vs. O. A. Johnson. } In Error to the District Court of the United States for the Western District of Missouri.

[May 29, 1911]

Mr. Justice Holmes delivered the opinion of the Court.

This is an indictment for delivering for shipment from Missouri to Washington, D. C., packages and bottles of medicine bearing labels that stated or implied that the contents were effective in curing cancer, the defendant well knowing that such representations were false. On motion of the defendant the District Judge quashed the indictment (177 Fed. Rep. 313), and the United States brought this writ of error under the Act of March 2, 1907 (c. 2564, 34 Stat. 1246).

The question is whether the articles were misbranded within the meaning of Section 2 of the Food and Drugs Act of June 30, 1906 (c. 3915, 34 Stat. 768), making the delivery of misbranded drugs for shipment to any other State or Territory or the District of Columbia a punishable offense. By Section 6 the term "drug" includes any substance or mixture intended to be used for the cure, mitigation or prevention of disease. By Section 8 the term "misbranded" "shall apply to all drugs, or articles of food, . . . the package or label of which shall bear any statement, design or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the state, territory or country in which it is manufactured or produced, . . . An article shall also be deemed to be misbranded: In case of drugs: First. If it be an imitation of or offered for sale under the name of another article. Second. (In case of a substitution of contents) or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphin, opium, cocain, heroin, alpha or beta eucain, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substances contained therein."

It is a postulate, as the case comes before us, that in a certain sense the statement on the label was false, or, at least, misleading. What we have to decide is whether such misleading statements are aimed at and hit by the words of the Act. It seems to us that the words used convey to an ear trained to the usages of English speech a different aim; and although the meaning of a sentence is to be felt rather than to be proved, generally and here the impression may be strengthened by argument, as we shall try to show.

We lay on one side as quite unfounded the argument that the words "statement which shall be misleading in any particular" as used in the statute do not apply to drugs at all—that the statements referred to are those "regarding such article," and that "article" means article of food, mentioned by the side of drugs at the beginning of the section. It is enough to say that the beginning of the sentence makes such a reading impossible, and that "article" expressly includes drugs a few lines further on in what we have quoted, not to speak of the reason of the thing. But we are of opinion that the phrase is aimed not at all possible false statements, but only at such as determine the identity of the article, possibly including its strength, quality and purity dealt with in Section 7. In support of our interpretation the first thing to be noticed is the second branch of the sentence: "Or the ingredients or substances contained therein." One may say with some confidence that in idiomatic English this half, at least, is confined to identity, and means a false statement as to what the ingredients are. Logically, it might mean more, but

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idiomatically it does not. But if the false statement referred to is a misstatement of identity as applied to a part of its objects, idiom and logic unite in giving it the same limit when applied to the other branch, the article, whether simple or one that the ingredients compose. Again, it is to be noticed that the cases of misbranding, specifically mentioned and following the general words that we have construed, are all cases analogous to the statement of identity and not at all to inflated or false commendation of wares. The first is a false statement as to the country where the article is manufactured or produced; a matter quite unnecessary to specify if the preceding words had a universal scope, yet added as not being within them. The next case is that of imitation and taking the name of another article, of which the same may be said, and so of the next, a substitution of contents. The last is breach of an affirmative requirement to disclose the proportion of alcohol and certain other noxious ingredients in the package—again a matter of plain past history concerning the nature and amount of the poisons employed, not an estimate or prophecy concerning their effect. In further confirmation, it should be noticed that although the indictment alleges a wilful fraud, the shipment is punished by the statute if the article is misbranded, and that the article may be misbranded without any conscious fraud at all. It was natural enough to throw this risk on shippers with regard to the identity of their wares, but a very different and unlikely step to make them answerable for mistaken praise. It should be noticed still further that by Section 4 the determination whether an article is misbranded is left to the Bureau of Chemistry of the Department of Agriculture, which is most natural if the question concerns ingredients and kind, but hardly so as to medical effects.

To avoid misunderstanding we should add that, for the purposes of this case, at least, we assume that a label might be of such a nature as to import a statement concerning identity, within the statute, although in form only a commendation of the supposed drug. It may be that a label in such form would exclude certain substances so plainly to all common understanding as to amount to an implied statement of what the contents of the package were not; and it may be that such a negation might fall within the prohibitions of the act. It may be—we express no opinion upon that matter—that if the present indictment had alleged that the contents of the bottles were water, the label so distinctly implied that they were other than water as to be a false statement of facts concerning their nature and kind. But such a statement as to contents, undescribed and unknown, is shown to be false only in its commendatory and prophetic aspect, and as such is not within the act.

In view of what we have said by way of simple interpretation we think it unnecessary to go into considerations of wider scope. We shall say nothing as to the limits of constitutional power, and but a word as to what Congress was likely to attempt. It was much more likely to regulate commerce in food and drugs with reference to plain matter of fact, so that food and drugs should be what they professed to be, when the kind was stated, than to distort the uses of its constitutional power to establishing criteria in regions where opinions are far apart. See *School of Magnetic Healing v. McAnnulty*, 187 U. S. 94. As we have said above, the reference of the question of misbranding to the Bureau of Chemistry for determination confirms what would have been our expectation and what is our understanding of the words immediately in point.

DISSENTING OPINION

Mr. Justice Hughes dissenting: I am unable to concur in the judgment in this case, for the following reasons: The defendant was charged with delivering for shipment in interstate commerce certain packages and bottles of drugs alleged to have been misbranded in violation of the Food and Drugs Act of June 30, 1906, Chapter 3915, Stat. 768.

The articles were labeled respectively "Cancerine tablets," "Antiseptic tablets," "Blood purifier," "Special No. 4," "Cancerine No. 17," and "Cancerine No. 1,"—the whole constituting what was termed in substance "Dr. Johnson's Mild Combination Treatment for Cancer." There were several counts in the indictment with respect to the different articles. The labels contained the words "Guaranteed under the Pure Food and Drugs Act, June 30, 1906;" and some of the further statements were as follows:

"Blood Purifier. This is an effective tonic and alterative. It enters the circulation at once, utterly destroying and removing impurities from the blood and entire system. Acts on the bowels, kidneys and skin, eliminating poisons from the system, and when taken in connection with the Mild Combination Treatment gives splendid results in the treatment of cancer and other malignant diseases. I always advise that the Blood Purifier be continued some little time after the cancer has been killed and removed and the sore healed.

"Special No. 4. . . . . It has a strong stimulative and absorptive power; will remove swelling, arrest development, restore circulation and remove pain. Is indicated in all cases of malignancy where there is a tendency of the disease to spread, and where there is considerable hardness surrounding the sore. Applied thoroughly to a lump or to an enlarged gland will cause it to soften, become smaller and be absorbed.

"Cancerine No. 1. . . . . Tendency is to convert the sore from an unhealthy to a healthy condition and promote healing. Also it destroys and removes dead and unhealthy tissue."

In each case the indictment alleged that the article was "wholly worthless," as the defendant well knew.

In quashing the indictment the District Court construed the statute. The substance of the decision is found in the following words of the opinion: "Having regard to the intendment of the whole act, which is to protect the public health against adulterated, poisonous, and deleterious food, drugs, etc., the labeling or branding of the bottle or container, as to the quantity or composition of 'the ingredients or substances contained therein which shall be false or misleading,' by no possible construction can be extended to an inquiry as to whether or not the prescription be efficacious or worthless to effect the remedy claimed for it." And the question on this writ of error is whether or not this construction is correct. *United States* v. *Keitel*, 211 U. S. 370.

What then is the true meaning of the statute?

Section 8 provides:

> "SEC. 8. That the term 'misbranded,' as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced."

The words "such article" in this section, as is shown by the immediate context, refer to "drugs" as well as to "food."

"Drugs" are thus defined in Section 6:

> "SEC. 6. That the term 'drug,' as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopeia or National Formulary for internal or external use, *and any substance of mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals.*"

Articles, then, intended to be used for curative purposes, such as those described in the indictment, are within the statute, though they are not recognized in the United States Pharmacopeia or the National Formulary. And the offense of misbranding is committed if the package or label of such an article bears any statement regarding it "which shall be false or misleading in any particular."

But it is said that these words refer only to false statements which fix the identity of the article. According to the construction placed upon the statute by the court below in quashing the indictment, if one puts on the market, in interstate commerce, tablets of inert matter or a liquid wholly worthless for any curative purpose as he well knows, with the label "Cancer Cure" or "Remedy for Epilepsy," he is not guilty of an offense, for in the sense attributed by that construction to the words of the statute he has not made a statement regarding the article which is false or misleading in any particular.

I fail to find a sufficient warrant for this limitation, and on the contrary, it seems to me to be opposed to the intent of Congress and to deprive the act of a very salutary effect.

It is strongly stated that the clause in Section 8,—"or the ingredients or substances contained therein,"—has reference to identity and that this controls the interpretation of the entire provision. This, in my judgment, is to ascribe an altogether undue weight to the wording of the clause and to overlook the context. The clause, it will be observed, is disjunctive. If Congress had intended to restrict the offense to misstatements as to identity, it could easily have said so. But it did not say so. To a draftsman with such a purpose the language used would not naturally occur. Indeed, as will presently be shown, Congress refused, with the question up, so to limit the statute.

Let us look at the context. In the very next sentence, the section provides (referring to drugs) that an article shall "*also*" be deemed to be misbranded if it be "an imitation of or offered for sale under the name of another article," or in case of substitution of contents or of failure to disclose the quantity or proportion of certain specified ingredients, if present, such as alcohol, morphin, opium, cocain, etc.

It is a matter of common knowledge that the "substances" or "mixtures of substances" which are embraced in the act, although not recognized by the United States Pharmacopeia or National Formulary, are sold under trade names without any disclosure of constituents, save to the extent necessary to meet the specific requirements of the statute. Are the provisions of the section to which we have referred, introduced by the word "*also*," and the one relating to the place of manufacture, the only provisions as to descriptive statements which are intended to apply to these medicinal preparations? Was it supposed that with respect to this large class of compositions, nothing being said as to ingredients except as specifically required, there could be, within the meaning of the act, no false or misleading statement in any particular? If false and misleading statements regarding such articles were put upon their labels, was it not the intent of Congress to reach them? And was it not for this very purpose that the general language of Section 8 was used?

The legislative history of the section would seem to negative the contention that Congress intended to limit the provision to statements as to identity. The provision in question as to misbranding, as it stood in the original bill in the Senate (then section 9) was as follows:

> "If the package containing it, or its label, shall bear any statement regarding the ingredients or the substances contained therein, which statement shall be false or misleading in any particular."

The question arose on this language whether or not it should be taken as limited strictly to statements with respect to identity. It was insisted that the words had a broader range and the effort was made to procure an amendment which should be so specific as to afford no basis for the conclusion that anything but false statements as to identity or constitutents was intended. An amendment was then adopted in the Senate making the provision read:

> "any statement as to the *constituent* ingredients, or the substances contained therein, which statement shall be false or misleading in any particular."

With this amendment the bill was passed by the Senate and went to the House. There the provision was changed by striking out the word "constituent" and inserting the word "regarding," so that it should read:

> "any statement regarding the ingredients or substances contained in such article, which statement shall be false or misleading in any particular."

Finally, it appears, that in conference the bill was amended by inserting the words "*design, or device*," and also the words "*such article, or;*" and thus the section became a part of the law in its present form—containing the words:

> "any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular."

It is difficult to suppose that, with the question distinctly raised, Congress would have rejected the provision of the Senate bill and broadened the language in the manner stated if it had been intended to confine the prohibition to false statements as to identity. Reading the act with the sole purpose of giving effect to the intent of Congress, I cannot escape the conclusion that it was designed to cover false and misleading statements of fact on the packages or labels of articles intended for curative purposes, although the statements relate to curative properties.

It is, of course, true, that when Congress used the words "false or misleading statement" it referred to a well-defined category in the law and must be taken to have intended statements of *fact* and not mere expressions of opinion.

The argument is that the curative properties of articles purveyed as medicinal preparations are matters of opinion, and the contrariety of views among medical practitioners, and the conflict between the schools of medicine, are impressively described. But, granting the wide domain of opinion, and allowing the broadest range to the conflict of medical views, there still remains a field in which statements as to curative properties are downright falsehoods and in no sense expressions of judgment. This field I believe this statute covers.

The construction which the District Court has placed upon this statute is that it cannot be extended to any case where the substance labeled as a cure, with a description of curative properties, is "wholly worthless" and is known by the defendant to be such. That is the charge of the indictment.

The question then is whether, if an article is shipped in interstate commerce, bearing on its label a representation that it is a cure for a given disease, when on a showing of the facts there would be a unanimous agreement that it was absolutely worthless and an out-and-out cheat, the act of Congress can be said to apply to it. To my mind the answer appears clear. One or two hypothetical illustrations have been given above. Others may readily be suggested. The records of actual prosecutions, to which I am about to refer, shows the operation the statute has had and I know of no reason why this should be denied to it in the future.

Our attention has been called to the construction which was immediately placed upon the enactment by the officers charged with its enforcement in the Department of Justice and the Department of Agriculture. It is true that the statute is a recent one, and, of course, the question is one for judicial decision. But it is not amiss to note that the natural meaning of the words used in the statute, reflected in the refusal of Congress to adopt a narrower provision, was the meaning promptly attributed to it in the proceedings that were taken to enforce the law. And this appears to have been acquiesced in by the defendants in many prosecutions in which the defendants pleaded guilty. We have been referred to the records of the Department of Agriculture showing nearly thirty cases in which either goods had been seized and no defense made, or pleas of guilty had been entered. Among these are found such cases as the following:

"No. 29. Hancock's Liquid Sulphur, falsely represented, among other things, to be 'Nature's Greatest Germicide. . . . The Great Cure for . . . Diphtheria.' Investigation begun Nov. 22, 1907. Plea of guilty."

"No. 180. Gowan's Pneumonia Cure, falsely represented, among other things, that it 'Supplies an easily absorbed food for the lungs that quickly effects a permanent cure.' Investigation begun Nov. 22, 1907. Criminal information. Plea of guilty."

"No. 181. 'Eyelin,' falsely represented, among other things, that it 'Repairs and Rejuvenates the Eye and Sight.' Investigation begun Feb. 13, 1908. Plea of guilty."

"No. 261. 'Sure Thing Tonic,' falsely represented, among other things, to be 'Sure Thing Tonic. . . . Restores Nerve Energy, Renews Vital Force.' Investigation begun June 3, 1909. Pleaded guilty."

"No. 424. 'Tuckahoe Lithia Water,' falsely represented, among other things, to be 'a sure solvent for calculi, either of the kidneys or liver, especially indicated in all diseases due to uric diathesis, such as gout, rheumatism, gravel stone, incipient diabetes, Bright's Disease, inflamed bladder, eczema, stomach, nervous and malarial disorders.' Investigation begun July 9, 1908. Plea of guilty."

"No. 427. 'Cancerine,' falsely represented, among other things, to be 'A remarkably curative extract which if faithfully adhered to will entirely eradicate cancerous poison from the system. . . . A specific cure for cancer in all its forms.' Investigation begun about April 12, 1909. Criminal information. Plea of guilty."

I find nothing in the language of the statute which requires the conclusion that these persons who have confessed their guilt in making false and misleading statements on their

labels should be privileged to conduct their interstate traffic in their so-called medicines, admittedly worthless, because Congress did not intend to reach them.

Nor does it seem to me that any serious question arises in this case as to the power of Congress. I take it to be conceded that misbranding may cover statements as to strength, quality and purity. But so long as the statement is not as to matter of opinion, but consists of a false representation of fact—in labeling the article as a cure when it is nothing of the sort from any point of view, but wholly worthless—there would appear to be no basis for a constitutional distinction. It is none the less descriptive—and falsely descriptive—of the article. Why should not worthless stuff, purveyed under false labels as cures, be made contraband of interstate commerce,—as well as lottery tickets? *Champion* v. *Ames*, 188 U. S. 331.

I entirely agree that in any case brought under the act for misbranding,—by a false or misleading statement as to curative properties of an article,—it would be the duty of the court to direct an acquittal when it appeared that the statement concerned a matter of opinion. Conviction would stand only where it had been shown that, apart from any question of opinion, the so-called remedy was absolutely worthless and hence the label demonstrably false; but in such case it seems to me to be fully authorized by the statute.

Accordingly, I reach the conclusion that the court below erred in the construction that it gave the statute, and hence in quashing the indictment, and that the judgment should be reversed.

I am authorized to say that Mr. Justice HARLAN and Mr. Justice DAY concur in this dissent.

Correspondence

Knots

To the Editor:—In THE JOURNAL, April 8, is an article entitled, "An Efficient and Time-Saving Method of Tying the Square Knot." In the *South Carolina Medical Journal*, October, 1909, appeared an article in which I described a method of tying knots identical with the one described by Drs. Castle and Ryfkogel. The maneuvers are reversed, however, that is to say, the first turn of their knot is brought down by my second maneuver, etc. Their description also refers to carrying out these maneuvers with both hands simultaneously in order to tie the friction knot. Strange to say, I also anticipated them in describing this one.

B. B. STEEDLY, Spartanburg, S. C.

To the Editor:—Being interested in knots, I attempted to tie this one according to the directions and discovered an error. If the first half of the knot is tied as directed and as shown in Figures 1, 2, 3, 4, I do not get the result as shown in Figure 5. Instead, hands A and B must be crossed to make this half of the knot lie down flat so that it will hold while the second half is tied. This is an awkward position for pulling up the first half which must be snug. This can be obviated by starting with ligature C in hand B and ligature D in hand A. This change will cause the first half of the knot to lie down flat while the second half when tied as given in the directions will come into place properly when the hands are crossed. This is not such an inconvenience in the case of the second half as it does not need to be pulled so snugly.

W. H. BAILEY, Kansas City, Mo.

To the Editor:—In March, 1909, I presented in *Surgery, Gynecology and Obstetrics* an original method of tying surgical knots rapidly and accurately. I have used the method continuously since 1901. The "one-finger" principle described by Drs. Castle and Ryfkogel is identical with mine. The method of application differs merely in the fact that they make first the knot I described as the second, while their second half is my first knot. (Practically, it depends entirely on the manner the hand happens to catch the ligature, whether the one knot is made first or last.) For these reasons I respectfully claim priority in devising and publishing this rapid-tying method. I am very much in accord with Drs. Castle and Ryfkogel in their arguments. This method of making knots will do all they assert and more.

Slight errors are unquestionably due to the artist and not to the surgeon. The context makes this clear. For instance, Figure 4 does not represent any part of a knot. In Figure 5 the hands are shown as having interchanged ends. If this were not done, the hands must be held crossed to show this step in making the knot.

E. P. QUAIN, Bismarck, N. D.

[The above extracts from letters were referred to Drs. Castle and Ryfkogel. The former replies.]

To the Editor:—The principles of producing the square knot which Drs. Quain and Steedly published are identical with those we recently gave. Our application of these, which by the way is merely composed of the movements which have long been employed to form the well known "crochet knot," is less cumbersome than Dr. Quain's. Further, we have given the information necessary to obtain a knot which has two turns in each half, which some surgeons deem very important.

The article that appeared in THE JOURNAL, April 8, 1911, was written over three years ago, since which time it has been lying on the shelf. It was devised, written, and published without the slightest knowledge of any other person's work. I compliment these other authors on their ingenuity and ask your pardon if this occurrence has caused you any embarrassment.

As to Dr. Bailey's criticism: The principle of tying the knot is vividly shown. It would be confusing to mention the end of the ligature that should be held in the grasp of either hand. That is too obvious. If the person tying is the surgeon and if he retains his needleholder in his right hand, thereby using his left hand to tie the free end, one can readily understand that the conditions will be different from those wherein the assistant ties the free end of a continuous suture.

If any one desires to learn to tie this knot by these movements he will have no trouble in learning the method from the article as it stands. He will soon learn to adjust his ligatures in accordance with the conditions governing the situation, i. e. if he is tying with his right or left hand or with both hands, whether he is tying the free end of a continuous suture from the assistant's side of the table or from the surgeon's, or if he is tying ligatures.

H. EDWARD CASTLE, San Francisco.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF COAL-OIL POISONING

To the Editor:—Please give the treatment of poisoning from coal-oil. I do not remember having noticed a description of this particular form of poisoning in any of the text-books.

F. S. SPEARMAN, M.D., Whiting, Iowa.

ANSWER.—The treatment of coal-oil poisoning consists in washing out the stomach or administering emetics and using purgatives. In cases of collapse, warm baths with cold effusions are recommended; the usual respiratory and cardiac stimulants are also indicated.

DIGESTIBILITY OF SOUR AND SWEET MILK

To the Editor:—Kindly give me information concerning the relative digestibility of sour and of sweet milk, both for adults and for infants.

C. B. PURVIS, M.D., Brookline, Mass.

ANSWER.—Sour milk may be consumed in two different forms. The one is the naturally soured milk, the other buttermilk. The difference between the two is, first, that sour milk contains the full amount of butter-fat, and, second, that the coagulated casein is not churned in sour milk. The churning of the casein undoubtedly adds to the digestibility, since the more solid curd of sour milk has to be broken up in the stomach. Both sour milk and buttermilk may be considered to be partially predigested as compared to sweet milk and both are therefore more easily digestible, buttermilk to a higher degree than sour milk.

The acidity in milk is produced by the action of bacteria, the acid being chiefly lactic acid. The milk-sugar is decomposed by the activity of these bacteria. Often sugars give rise to fermentations in the digestive tract of man, and in such cases buttermilk or sour milk is preferable to sweet milk because of the reduction of the amount of milk-sugar contained in sweet milk.

In the digestive tract of infants the conditions are emphasized. Infants are more subject to sugar fermentations than are adults and for this reason and, also, because of the somewhat predigested casein, buttermilk has frequently given favorable results. The fat in milk is probably responsible for more digestive troubles in infants than any other constituent in milk. Buttermilk, whether from the churn or made from separator milk by means of "starters," usually contains less than 1 per cent. fat, often as low as 0.1 per cent. Infants with white stools are therefore benefited by the reduction in fat content in buttermilk as compared with sweet milk.

The same principles apply if fermented milks are used, such as kumiss, kefir, Bulgarian milk, etc. Bulgarian milk has an additional advantage over the other fermented milk, inasmuch as the curd formed by the Bulgarian bacillus is smooth and needs hardly any churning.

The claim that the presence of lactic acid in buttermilk, sour milk, and fermented milks is of advantage has not been sufficiently substantiated.

THERAPEUTIC EFFICIENCY OF VARIOUS KINDS OF YEAST

To the Editor:—Please discuss the therapeutic efficiency of the various forms of yeast—brewers', Fleischmann's compressed and "Yeast Foam" dry. Can one be substituted for another?

W. A. WOMER, New Castle, Pa.

ANSWER.—The different forms of yeast are prepared from the upper or top yeast of the brewer and their activity will vary somewhat, according as the yeast is in active growth or in the resting stage. Aside from this there appears to be no distinction between the varieties mentioned.

The Public Service

Medical Department, U. S. Army

Changes for the week ending June 10, 1911.

Siler, Joseph F., captain, and Davis, William R., captain, ordered to remain on duty at the U. S. military academy, West Point, N. Y., until June 14, 1911.

Murray, Wilson, M.R.C., ordered to accompany field artillery from Fort Snelling, Minn., to Sparta, Wis., and then return to station Fort William H. Harrison, Mont.

Blodgett, Harry H., M.R.C., recently appointed, ordered to active duty, and assigned to duty at Fort Riley, Kan.

Fisher, Henry C., major, June 5, left Columbus Barracks, Ohio, on ten days' leave of absence.

Reno, William W., major, ordered to inspect hospital corps, New Hampshire militia, at encampment near Wilton, N. H., June 12 to 17, 1911.

Long, Charles J., D.S., ordered to several posts in the Department of the East for temporary duty.

Jackson, Thomas W., M.R.C., granted one month and ten days' leave of absence, about June 10, 1911.

Morse, Charles F., captain, granted leave of absence for two months and fifteen days, about Aug. 15, 1911.

Brechemin, Louis, colonel, ordered to proceed to St. Louis, Mo., and relieve Lieutenant-Colonel Snyder as medical supply officer in that city.

Snyder, Henry D., lieut.-col., on being relieved from duty in charge of the medical supply department, St. Louis, Mo., by Col. Louis Brechemin, M.C., will proceed to New York City and assume charge of the medical supply department in that city, as heretofore ordered.

Appel, Aaron H., colonel, relieved from active service after more than thirty-one years' service.

Reynolds, Royal, lieut., left Cienegas, N. Mex., en route to Denver, Colo., for duty.

Reynolds, Charles R., major, is assigned to duty as inspector, sanitary troops organized militia, State of New York, encampment, Peekskill, N. Y.

Love, Joseph W., M.R.C., reported for temporary duty at Fort Andrews, Mass.

Woodbury, Frank T., major, relieved from duty at Fort Assiniboine, Mont., and from temporary duty at Fort D. A. Russell, Wyo., and ordered to Fort Screven, Ga.

O'Connor, R. P., major, relieved from duty at Fort Screven, Ga., to take effect on return from Galveston, Texas, and ordered to Fort Huachuca, Ariz., for duty.

Medical Corps, U. S. Navy

Changes during the week ended June 10, 1911.

Holcomb, R. C., surgeon, detached from the *Delaware* and ordered to the *North Dakota*.

Plendwell, F. L., surgeon, detached from the *North Dakota* and ordered to the *Delaware*.

Backus, J. W., P. A. surgeon, detached from the *Pennsylvania* and ordered to the *Iris*.

Davidson, A. B., asst.-surg., detached from the *Iris* and ordered to the Pacific torpedo fleet.

Downey, J. O., P. A. surgeon, detached from the *Prairie* and ordered to the *Chester*.

Bogan, F. M., surgeon, detached from the *Wisconsin* and ordered to duty at the naval hospital, Portsmouth, N. H.

Jenness, B. F., P. A. surgeon, detached from the naval hospital, Portsmouth, N. H., and granted sick leave for three months.

Derr, E. Z., medical director, on being placed on the retired list, June 10, detached from the Navy recruiting station, Providence, R. I., and ordered home.

Ohnesorg, K., surgeon, detached from the Navy yard, New York City, and ordered to duty at the naval hospital, Philadelphia.

Dorr, E. Z., medical director, transferred to the retired list from June 10, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 7, 1911.

Pettus, W. J., asst. surg.-gen., granted nine days' leave of absence from June 2, 1911.

Kerr, J. W., asst. surg.-gen., granted twenty-two days' leave of absence from July 10, 1911.

Long, J. D., asst. surg.-gen., granted one month's leave of absence from July 1, 1911.

White, J. H., surgeon, granted twenty-one days' leave of absence from June 1, 1911, without pay.

Carrington, P. M., surgeon, granted fourteen days' leave of absence from June 23, 1911.

William, L. L., surgeon, detailed to attend the thirty-eighth annual meeting of the National Conference of Charities and Corrections, to be held in Boston, June 7-14, 1911.

Wertenbaker, C. P., surgeon, detailed to attend the annual meeting of the Association of Surgeons of the Norfolk & Western Railway, to be held in Richmond, Va., June 15-16, 1911.

Young, G. B., surgeon, granted nineteen days' leave of absence from June 1, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from May 24, 1911, on account of sickness.

Blue, Rupert, surgeon, detailed to represent the service in the Section on Preventive Medicine and Public Health of the American Medical Association, to be held in Los Angeles, Cal., June 26-30, 1911.

Rucker, W. C., P. A. surgeon, directed to proceed to Victor, Mont., and report to Passed Assistant Surgeon T. B. McClintic for duty in the investigation of Rocky Mountain spotted fever.

Smith, F. C., P. A. surgeon, detailed to represent the service at the annual meeting of the National Association for the Study and Prevention of Tuberculosis, to be held at Denver, Colo., June 20-21, 1911.

Hunt, Reid, professor of pharmacology, detailed to represent the service at the sixty-second annual meeting of the American Medical Association, to be held at Los Angeles, Cal., June 26-30, 1911.

Rodman, J. C., A. A. surgeon, granted twelve days' leave of absence from June 13, 1911.

Slamberg, N. L. A. K., A. A. surgeon, granted twenty-five days' leave of absence from June 2, 1911.

Brown, F. L., pharmacist, relieved from temporary charge of South Atlantic quarantine station and ordered to proceed to Wilmington, N. C., and report to the medical officer in command for duty and assignment to quarters; granted fifteen days' leave of absence from June 1, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

EDITORIAL COMMENTS ON PUBLIC HEALTH PROBLEMS

This department has occasionally reprinted extracts from newspaper editorials, with a view to showing the position of the representative newspapers of the country on public health matters. The amount of space given to such questions by the better class of newspapers is steadily increasing. This is one of the many evidences of constantly growing public interest in better health conditions. Here are a few extracts from a large number of newspaper clippings received in the past few weeks:

The Peoria (Ill.) *Transcript*, commenting on the decision of the United States Supreme Court in the case of the government against O. A. Johnson of Kansas City, says:

The "patent-medicine" business has grown to stupendous proportions in this country. Viewed from the standpoint of "vested interests" it is one of the largest in investment and profits. While there are doubtless many legitimate preparations sold, it is true that the great bulk of consumption, rheumatism and cancer "cures" are rank frauds. If the medicine-makers cannot tell the truth about their product with-

out breaking their business up, it is not legitimate business. The first duty of the government is to protect its citizens from fraud and medical frauds are the least excusable of any.

The Akron (O.) *Beacon-Journal*, after quoting at length from *Collier's* editorial on the National League of Medical Freedom, expresses its opinion as follows:

Health regulation should be no more a matter of individual choice than should burning one's own home in a crowded city. It is doubtful if more hypocrisy could be created into two words than in the single phrase of "medical freedom" which has been exploited by a league of late, whose workings are hidden to the average man except that it is evidently well provided with money. . . . The era of health regulation, pure food, pure drugs, etc., has fallen heavily on those who formerly made their living from the gullible public by means of pretensions of false science and by dealing in adulterations. Little wonder they have subscribed liberally to frustrate one of the greatest movements of the day.

The *Daily Chronicle* of Orange, N. J., discussing the compulsory vaccination law for school children, says:

Whatever the plea made in support of the opposition to vaccination, it must be admitted that the vast preponderance of argument and evidence is in favor of the practice. It can hardly be credited to a natural coincidence that smallpox is practically eliminated where vaccination is systematically and generally enforced and the occasional cases of blood-poisoning, tetanus or scrofula that might be authentically traced to the inoculation are too remote a danger to justify the abolition of the precaution that is entirely successful in such a vast majority of cases. Vaccination is required as a preventive and not as a cure. . . . A rule requiring it must be enforced without exceptions if it is to be effective and a single exception in its application would open the way to others of equal merit and it might as well be rescinded entirely.

Commenting on the work of physicians in reducing disease, the Leavenworth (Kan.) *Times* says:

Doctors are the queerest people in the world. Men in other business use means to increase their business. The doctors use means to make theirs less. It is to their interest that there should be sickness in the community, yet they are constantly advising their patients how to avoid sickness and they are constantly urging the communities in which they live to take precautions to prevent epidemics.

These thoughts were suggested by the action of the Leavenworth County Medical Association in determining to bring the state tuberculosis exhibit to the city again.

Last year the association brought the exhibit here, hired a room and paid nearly all the expense themselves, and all in order to teach the people the danger of contagion from the dread disease and how to avoid it. Hundreds of people visited the exhibit while it was here and the doctors of the city reported afterward that there was a distinct effort being made by many people to take proper precautions to avoid the disease.

It was a great thing to do for the city and the city should have paid the expense. The commissioners felt, however, that they had no right to use the public money in that way, but each one of them went down into his pocket and gave a contribution to assist in paying for the exhibit.

This year the doctors will ask the commissioners to pay at least a part of the expense out of the city treasury and we see no reason why it should not all be paid that way. The exhibit is for the benefit of all—unless the doctors may be excepted. We do not see why they should bear the burden of lessening their own business.

The Des Moines (Ia.) *Register* commenting on the resignation of two members of the state board of health who, according to newspaper reports, were discouraged over the efforts of the board to carry on effective work with the meager appropriation allowed by the state, says:

It is doubtful if the doctors who are hastening to resign from the state board of health because the legislative appropriations for its work were inadequate are acting altogether temperately. It is true they have occasion to feel dissatisfied. The legislature has treated the matter of conserving the public health as though it were of no consequence. The medical men of the state are, no doubt, getting tired of "nagging" the public into taking care of itself." . . .

But, granting the provocation and all else, the fact still remains that the public health must be cared for as best it may. The fact remains that the State Board of Health must continue to do its work in spite of every obstacle. The fact remains that doctors must continue to do the very best they can to interest the public in conserving its health. Why shouldn't the members of the board of health make the best of the situation and give the state the best service they can under the circumstances? Why is not the need of large, capable men on the state board even greater now than it might be otherwise?

Public service always calls for some sacrifice. Even under the most favorable conditions there would be disagreeable things about membership on the State Board of Health. There are merely a few more to contend with now, that is all. The interests of the state at large ought to be considered worth working for in spite of comparatively small annoyances. It is not always the best time to quit when impatient or when there is work ahead.

And yet if the same physicians, who the *Register* says "must continue to do the very best they can" to protect the public health, should ask the legislature for more stringent laws to exclude the ignorant and vicious from trifling with the lives of citizens, or even for the enforcement of existing laws, they would be denounced as endeavoring to establish a "doctors' trust."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin.

COLORADO: Denver, July 5. Sec., Dr. S. D. Van Meter, 1723 Tremont Street.

CONNECTICUT: Regular, City Hall, New Haven, July 11-12. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, Grace Hospital, New Haven, July 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, July 11. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

INDIANA: Room 120 State House, Indianapolis, July 11-13. Sec., Dr. W. T. Gott, Crawfordsville.

MAINE: State House, Augusta, July 6-7. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.

MARYLAND: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

MINNESOTA: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

NEW HAMPSHIRE: State House, Concord, July 6-7. Regent, Mr. Henry C. Morrison.

NEW JERSEY: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

NEW MEXICO: The Capitol, Santa Fe, July 10-11. Sec., Dr. J. A. Massie.

NEW YORK: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH DAKOTA: Grand Forks, July 5. Sec., Dr. H. M. Wheeler.

OKLAHOMA: Ione Hotel, Guthrie, July 11. Sec., Dr. John W. Duke.

OREGON: Portland, July 4. Sec., Dr. E. B. McDaniel, 704 Electric Building.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

RHODE ISLAND: State House, Providence, July 6-7. Sec., Dr. Gardner T. Swarts.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

UTAH: State House, Salt Lake City, July 5-6. Sec., Dr. G. F. Harding, 310 Templeton Building.

VERMONT: Burlington, July 11-13. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

WASHINGTON: Tacoma, July 4. Sec., Dr. F. P. Witter, Traders Block, Spokane.

WEST VIRGINIA: Capitol Building, Charleston, July 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

New Requirements in Arkansas

At the recent meeting of the State Medical Board of the Arkansas Medical Society, a new schedule of requirements for medical colleges was adopted. Beginning with the session of 1911-12, every matriculant in the medical colleges of Arkansas

must obtain a matriculation certificate from the board. These certificates will be issued on either (a) acceptable credentials or (b) successful passing of an examination before the State Superintendent of Public Instruction.

The minimum preliminary education is given as that required for entrance to the University of Arkansas. For the next college session this minimum must represent 13 units of secondary school work, 7 of which must be in prescribed subjects as follows: English, 3 units; algebra, 2 units; plain geometry, 1 unit, and United States history, 1 unit. The remaining 6 units may be taken in elective subjects.

To be in good standing, each medical college must require for graduation not less than four courses of lectures of at least thirty weeks each, and must require regular attendance on these courses, no allowance to be made for absence except when due to sickness and such absences must not exceed 20 per cent. of the course. Attendance of at least two years in well-equipped laboratories and two years of clinical and hospital instruction is also required. No medical school will be considered in good standing if it issues a catalogue or announcement containing misrepresentations regarding its teaching facilities, courses of instruction or number of students matriculated.

Minnesota April Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, April 4-7, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 13, of whom 10 passed and 2 failed. One candidate did not complete the examination. Fourteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Rush Medical College	(1909) 82.1; (1910)	81.3
Hamline University	(1908)	75.3, 84.6
Univ. of Minn., Coll. of Med. and Surg.	(1910)	80.7, 86.5, 92
McGill University, Quebec	(1909)	81.7, 87.3
Laval University, Montreal	(1899)	77

FAILED		
Louisville and Hospital Medical College	(1908)	58.5
Hamline University	(1907)	72

LICENSED THROUGH RECIPROCITY		
College	Year Grad.	Reciprocity with
University of Colorado	(1910)	Colorado
Northwestern University Medical School, (2, 1910) Illinois.	(1908)	Wisconsin;
College of Physicians and Surgeons, Chicago	(1909)	Illinois
Hahnemann Med. Coll. and Hospital, Chicago	(1891)	Wisconsin
Johns Hopkins University	(1904)	Illinois
St. Louis University	(1910)	Illinois
Kansas City Medical College	(1902)	Nebraska
University Medical College, Kansas City	(1908)	Kansas
Western Pennsylvania Medical College	(1900)	N. Carolina
Wisconsin College of Physicians and Surgeons	(1908)	Wisconsin
Marquette University	(2, 1910)	Wisconsin

Nevada May Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 1-3, 1911. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed, including 1 osteopath. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
National Medical University, Chicago	(1898)	81.9
Univ. of Michigan, College of Med. and Surg.	(1885)	91.9
University of Michigan, Homeopathic College	(1897)	86.2
Columbia Univ., Coll. of Phys. and Surgs.	(1892)	89.9

LICENSED THROUGH RECIPROCITY		
College	Year Grad.	Reciprocity with
Rush Medical College	(1901)	Illinois
Indiana University School of Medicine	(1909)	Indiana
Marion-Sims Beaumont Medical College	(1902)	Nebraska
University of Nebraska	(1906)	Nebraska
Miami Medical College	(1902)	W. Virginia
Western Pennsylvania Medical College	(1908)	Illinois

Book Notices

A TEXT-BOOK OF GYNECOLOGIC SURGERY. By Comyns Berkeley, M.A., M.D., B.C.Cantab., Gynecologist and Obstetrician to the Middlesex Hospital, and Victor Bonney, M.S., M.D., B.Sc.Lond., Assistant Gynecologist and Assistant Obstetrician to the Middlesex Hospital. Cloth. Price, $5 net. Pp. 720, with 392 illustrations. New York: Funk & Wagnalls Co., 1911.

The purpose of this work is to set forth the detail and technic of the various gynecologic operations. No attempt has been made to discuss the etiology, pathology, symptoms and diagnosis in each condition, but rather the indications and contra-indications for operation have been considered, together with comparisons of the various methods at the operator's disposal in a given case. The descriptions of the various operations are unusually clear and complete, and in many instances each step of the procedure is illustrated. The book is very fully supplied with cuts. After a discussion of general considerations, the writers take up the consideration of vaginal operations, then the gynecologic operations performed by the abdominal route, together with a description of other abdominal operations which, while not strictly of a gynecologic nature, yet frequently are imposed on the operator; for instance, intestinal resection and anastomoses, repair of wounds of bladder and ureter, etc. The subjects are discussed in a systematic, lucid and forceful manner, showing a long familiarity with the work and a keen appreciation of the needs of the occasional operator and the beginner. The chapters devoted to the consideration of the operative complications and after-treatment are to be commended as the usual text-book either passes over them lightly or omits them entirely.

ESSENTIALS OF BIOLOGY PRESENTED IN PROBLEMS. By George William Hunter, A.M., Head of the Department of Biology, De Witt Clinton High School, New York. Cloth. Price, $1.25. Pp. 448, with illustrations. Chicago: American Book Co., 1911.

A LABORATORY MANUAL FOR THE SOLUTION OF PROBLEMS IN BIOLOGY. By Richard W. Sharpe, Instructor in Biology in the De Witt Clinton High School, New York. Cloth. Price, 75 cents. Pp. 352, with 86 illustrations. Chicago: American Book Co., 1911.

Professor Hunter has prepared a text-book, which is issued in company with Mr. Sharp's laboratory manual, the two forming a logical inductive method for the study of biology. The authors have presented their subject by means of a series of "problems" in biology rather than by the more conventional didactic method, seeking to arouse the interest and reasoning power of the pupil by presenting a series of physiologic problems, accompanied by directions for laboratory demonstrations and practical questions for the student to investigate and answer. Copious references to other authors accompany each chapter, many references being to articles in current magazines, government reports, etc. These books form admirable guides for the study of biology and give ample opportunity for the development of topical methods, it being the aim of the authors to show that methods of study which induce thinking are of far more importance than mere memorizing.

INEBRIETY. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment and the Medicolegal Relations. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford, Conn. Cloth. Price, $3. Pp. 365. Cincinnati: Harvey Publishing Co., 1911.

This is probably the most complete treatise on inebriety by an American author. The whole subject is considered scientifically, not sensationally, as so often in treatises on inebriety. The author's recommendations of treatment are judicious and will l helpful to all who need aid in the management of this disease. No subject is more important but, unfortunately, like other common diseases, it interests many practitioners less than the uncommon. What can be done for the inebriate by prope medical advice and guidance is not as universally appreciated as it should be. Moreover, institutional treatment is not a necessity in every case and all practitioners should equip themselves properly to guide patients to recovery o. past the hazards which beset the path of so many. A careful study of this book will reward those who do not feel fully equipped for the care of the inebriate.

BISMUTH PASTE IN CHRONIC SUPPURATIONS. Its Diagnostic Importance and Therapeutic Value. By Emil G. Beck, M.D., Surgeon to the North Chicago Hospital, Chicago. With an Introduction by Carl Beck, M.D. And a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by Joseph C. Beck, M.D. Cloth. Price, $2.50. Pp. 237, with 90 illustrations. St. Louis: C. V. Mosby Co., 1910.

The use of bismuth paste in the treatment of chronic suppurations and the use of bismuth in various forms of suspension for diagnostic purposes have become recognized procedures of value. With these, as with most operative procedures, however simple they may appear, it is necessary in order to attain the highest degree of success to carefully follow the correct technic. Many of the failures in the use of bismuth paste have been due either to faulty technic or to use in unsuitable cases. In this volume is found a careful description of the technic by the originator of the method as well as a review of the cases in which it has proved of value. Attention is also directed to the fact that severe and even fatal poisoning may follow the injudicious use of bismuth. This method, therefore, should be used only after one is thoroughly familiar with its possibilities and its dangers; hence a careful perusal of this little volume is almost essential to those who expect to use the method.

TRUTHS: TALKS WITH A BOY CONCERNING HIMSELF. By E. B. Lowry, M.D., Author of "Confidences." Cloth. Price, 50 cents. Pp. 95. Chicago: Forbes & Co., 1911.

This little book, dedicated "To the Man of To-Morrow," is an effort to impart instruction to boys on sexual hygiene. It is interestingly written in the form of talks to a boy by his uncle. Beginning with a description of plant life and the method of plant reproduction, the reader is gradually led through the lower forms of animal life, with which he is naturally familiar, to the chapter on "The Mechanism of Our Bodies," the needed information being imparted in a natural and unsensational manner. Chapters containing needed warnings to boys on the dangers of listening to the advice of advertising fakers and a chapter on "Sowing Wild Oats," containing advice to the boy about to leave home, are particularly good. The tone of the book is excellent and it can be safely recommended to parents and others who wish to instruct children in this important subject.

THE SERPENT'S TRAIL, OR, MEMOIRS OF HAROLD BAGOTE, PHYSICIAN. A Tale of the South and of Cuba. By F. B. Cullens. Cloth. Price, $1.25. Pp. 168. New York: Broadway Publishing Co.

This is a melodramatic story of the adventures of a physician with a band of smugglers the leader of whom is the villain of the book. Under strange circumstances the hero was able to render great service to a beautiful woman. He was also enabled to foil the villain's wicked designs on another young and beautiful girl. The villain's machinations, however, resulted in the death of several characters including himself. The physician was later rewarded by the hand of the beautiful Spanish widow of the smuggling villain. Being written by a physician, concerning a physician, the book may be of interest to physicians who like this kind of literature.

STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second Edition. Cloth. Price, $4 net. Pp. 715. Philadelphia: W. B. Saunders Co., 1911.

According to the preface of the first edition this book is based on the questions asked by state medical licensing boards during several years. Duplicate questions have been eliminated and condensed answers follow. An exhaustive index makes it possible to find the reference to any subject readily. The evident purpose of the book is to provide a convenient compend for those who wish to prepare for state board examinations.

PLASTER OF PARIS AND HOW TO USE IT. By Martin W. Ware, M.D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital. Second Edition. Cloth. Price, $1.25. Pp. 101, with 90 illustrations. New York: Surgery Publishing Co., 92 William Street, 1911.

Following out the suggestions contained in the criticisms of the first edition the author has revised and rearranged this book. New matter and new illustrations have been added and marginal notes in red have been employed.

Medicolegal

Hospital for Treatment of Bone Tuberculosis Not a Nuisance

The Court of Chancery of New Jersey, in Board of Health and certain residents and property holders of Ventnor City vs. North American Home (78 Atl. R. 677), denied a preliminary injunction to prevent the defendant from conducting a sanitarium for the treatment of bone tuberculosis.

The court says that it was disclosed by affidavits filed in behalf of the defendant that the sanitarium was for the free treatment of poor children afflicted with said disease, and was not maintained for profit. Notwithstanding, however, the great public good which would necessarily result from the work of an institution of that nature, it was manifest that, if the health of the residents of Ventnor City was jeopardized by its maintenance, a court of equity might grant such relief as would afford adequate protection to the residents of that city from the threatened danger; but, if no real danger of that nature existed, the mere fact that uninformed people who were unacquainted with the true conditions might or probably would assume such a danger to exist could not be made the basis of equitable relief.

The answer which was filed in behalf of the defendant was accompanied by affidavits of a great number of physicians and surgeons of eminence in their profession and who had given special study to the various forms of tuberculosis. They testified that while pulmonary tuberculosis is undoubtedly contagious, bone tuberculosis is neither contagious nor infectious, and cannot be transferred from one to another; and that cases of bone tuberculosis are freely admitted to all the hospitals and treated in the same wards as other surgical cases. If that was true, it was manifest that no danger to the health of the inhabitants of Ventnor City was threatened by the maintenance of the sanitarium in question and the grievance asserted by the complainants was based on an assumed danger which did not in fact exist.

It was urged that the New Jersey legislature had declared bone tuberculosis to be a communicable disease, and an act of 1910 concerning tuberculosis contains this sentence: "Tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health." But an examination of the several provisions of that act, especially when considered in connection with the testimony touching the difference between pulmonary and bone tuberculosis, renders it at least doubtful whether the portion of the act above quoted was intended to include bone tuberculosis. If any truth was to be found in the affidavits of the physicians who had testified touching the nature of bone tuberculosis, it was entirely manifest that the legislature had not intended the section making it a misdemeanor for "any person having tuberculosis" to dispose of his sputum in a manner contrary to the directions of the act, to control the disposition of the sputum of persons afflicted only by bone tuberculosis. Whether any of the provisions of that act were intended to include bone tuberculosis it was not necessary to consider here; but the court is convinced that the legislation referred to could not properly be deemed operative to render the institution conducted by the defendant a nuisance *per se*, or in and of itself.

Wide Range of Evidence Admissible in Support of Defense of Insanity

The Supreme Court of Washington in granting a new trial in the case of State vs. Flanney (112 Pac. R. 630), where the defendant, a half-breed Indian, was convicted of the murder of his wife, says that it deems the question presented as to the admissibility of evidence in such a case to be one of more than usual interest and importance. The question was raised by a rejection by the trial court of an offer by the defendant to prove that his wife had taken up with what is known among the Indians as the Shakers; that the man of whom

the defendant was jealous, and whom he charged with having weaned his wife away, was a Shaker; that the Shaker society is an Indian religious organization which teaches and practices promiscuous, illicit intercourse among its members, and that it is the duty of a member having a spouse who is not one of that faith to secure a divorce; that the defendant knew of his wife's faith, and, suspecting her of lewd conduct, was so greatly distressed in mind that for the time his reason was dethroned. The Supreme Court holds that this evidence was admissible.

The Supreme Court says that it has made an earnest research of the authorities, and finds that it is a first principle of the law that in all cases involving mental responsibility, whether it be in regard to contracts, wills, etc. or crimes, every fact which tends to show that the mental condition of the subject was abnormal at the time of the execution of the instrument or commission of the crime is competent. For the mind diseased cannot be measured by the mind of another. Neither the moving cause nor the limit of its aberration is to be calculated by any standard fixed by the law or medical science. Each case fixes its own relation to the law. What may unbalance one mind and lead it to act on its criminal impulses may have no bearing on another. Therefore it is important that all things which may bear on the subject of inquiry should be submitted to the jury, that it may say whether, from all the facts and circumstances leading up to the act complained of, the accused was, in fact, capable of distinguishing right from wrong when he committed the act.

The leading case on this subject is that of People vs. Wood, 126 N. Y. 249, which establishes the principle that "a party is entitled to the benefit of any competent evidence he may offer which bears on a controverted question of fact embraced in the issue."

A delusion of marital infidelity is acknowledged as a type or symptom of homicidal insanity by alienists. Mr. Clevenger, at pages 650, 651, 653, 658 and 1074, cites instances to confirm this theory. So that, whether the accused had a belief grounded in fact or born of imagination, the evidence which was rejected was proper as tending to throw light on the defendant's mental attitude toward the victim of his deliberate physical act. Under all authority, it seems clear that, having laid a foundation by showing some evidence of mental aberration, the defendant could show that his wife's conduct had been such as to account for the state of his mind, and that his plea was not feigned. The testimony does not prove or disprove the crime, but it is a circumstance to be considered by the jury, as is a blow on the head, or a drug habit, etc. Nor does it introduce a collateral issue to be tried out. The inquiry should not go beyond such limit as will disclose the fact to the jury that there was a cause which might have moved the mind of the accused, and which it may consider as evidence tending to sustain his plea.

Such testimony should go to the jury under careful instructions. Its purpose and the limit of its application should be carefully guarded; so that the jury will not take it, if true, as in itself a justification or as an excuse for the crime, nor to prove justification for anger, hatred, revenge or an uncontrolled passion, or the momentary impulse of a sane mind, but for just what it is intended; that is, whether, considering all the facts and circumstances offered to show an insane act, it tends to strengthen the testimony by showing an adequate cause accounting in some degree for the alleged mental condition of the accused at the time the murder was committed.

It may be assumed that no man can measure the torment which a doubting husband tells o'er. If in the telling his reason so far fails that he cannot distinguish the right or wrong of his act, he is indeed an object of pity and compassion; but, on the other hand, if, with mental power to distinguish right from wrong, he takes the life of his victim, he should be made to feel the heavy and unflinching hand of the law. It is for the jury to say whether the defendant is a felon, or the victim of an unfathomed nature. That it may make no mistake, the defendant is entitled to submit such evidence as he may, providing only that it is relevant and competent to sustain his plea.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Medico-Psychological Association, Denver, June 19-20.
American Ophthalmological Society, New London, Conn., July 11.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Arizona Medical Association, Los Angeles, June 26.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
North Carolina, Medical Society of State of, Charlotte, June 20.
Oregon State Medical Association, Los Angeles, Cal., July 10.

FLORIDA MEDICAL ASSOCIATION

Thirty-Eighth Annual Meeting, held at Tallahassee, May 10-12, 1911

The President, DR. J. D. LOVE, in the Chair

The officers elected were named in THE JOURNAL, June 3, 1911, page 1660.

House of Delegates

The report of the secretary showed 316 members in twenty-two counties.

Joint Examining Board

DR. J. H. PIERPONT, chairman of the Committee on Public Policy and Legislation, made his report in regard to an effort to have the regular, homeopathic and eclectic examining boards agree to consent to a joint board of examiners; that the homeopathic so far were not favorable to the proposition, and that the eclectic would not consent. Many irregularities in the method of appointment by the last-mentioned body were reported on the floor of the house. One of the prominent eclectics, Dr. S. F. Smith of Lakeland, a member of the association, promised his earnest support in bringing about favorable action on the proposed legislation. It is probable that the 1913 legislature of Florida will be asked to combine the three boards.

The Owen Bill

The Owen Bill, Senate Bill No. 1, providing for a national department of health, was endorsed, by resolutions, and its adoption urged.

The house adopted a resolution asking the legislature to place licensed physicians, who wished to practice pharmacy, on the same basis as graduates of pharmacy; i. e., requiring an examination before the board of pharmacy; except that this should not prevent a practicing physician from dispensing his own drugs.

Organization and Advancement of the Profession

DR. J. N. MCCORMACK, chairman of the Committee on Organization of the American Medical Association, addressed the association as to the value of organization, mutual cooperation and assistance in an effort to elevate the standard of the practice of medicine. On Thursday evening, his excellency, Albert W. Gilchrist, governor of Florida, presiding, Dr. McCormack, before a public audience, consisting of the state officials, members of the legislature, the medical association, and citizens of Tallahassee, delivered an address on the advantage of good health, how it can be obtained and maintained, the needs of the citizenship from a sanitary standpoint, and outlined the methods which should be followed in obtaining a closer cooperation between the profession and the public.

Some Needs of To-Day

DR. J. D. LOVE, Jacksonville: The growth of the Association has been very gratifying and I would urge that careful selection be made in admitting members and that the older members of the profession take a more active interest in the scientific work and exercise their mature thought in the lead-

ership of the profession. The modesty is unfair and injurious that leads an older physician to withhold his valued teachings in the mistaken assumption that only that which is new and as yet unproved appeals to the profession. As for the charlatans and medical imposters who every year invade the state, proper influence should be used to have the legislature define "the practice of medicine." The examining board should have statutory authority, probably with the consent of the governor in eash instance, to revoke for good and sufficient reason, the license of a physician. The practice of applicants, when having failed before the regular examining board, going before other boards of examiners and securing a license to practice medicine should be condemned. Legislation to secure proper compensation for expert medical testimony should be secured.

Surgical After-Treatment of Anterior Poliomyelitis

DR. R. C. TURCK, Jacksonville: Fully 90 per cent. of all cases of poliomyelitis in children are certain to terminate with some permanent paralysis and muscular atrophy. Every case of infantile paralysis is a law unto itself. Practically no two cases are alike. Until there has been perfected a specific as uniform and as undoubted as diphtheria antitoxin, for instance, we must face the consequences of infantile paralysis, and direct efforts first, to the minimization, and second, to the relief of the inevitable end results. Much can be done in the subacute stages by prophylactic treatment. Massage, joint manipulation, passive and active muscle stretching, with corrective and retention apparatus, if indicated, will prevent contracture deformity in practically all cases. The ideal treatment of deformity in poliomyelitis is prophylactic. In neglected cases, of those in which contracture occurs, in spite of preventive measures, deformities, especially of the ankle and knee, may be corrected by several means: tenotomy is most widely employed and most valuable if used with due regard to end results.

DISCUSSION

DR. J. H. RANDOLPH, Jacksonville: Notwithstanding the very best medical treatment we can give, sooner or later, with rare exceptions, the surgeon's knife must be resorted to for relief. With increased knowledge of benefits derived from early treatment, a diminution of extreme deformities should result. Early recognition of the condition is necessary, and I hope that soon we will have a serum for general use.

Traumatic Tetanus

DR. E. N. LIELL, Jacksonville: A male, aged 10, was injured by a blank pistol cartridge, Dec. 24, 1908. On the ninth day following, symptoms of rigidity of lower jaw muscles developed, with slight convulsive seizures; subsequently the muscles of the neck, chest and back became implicated. On the twelfth day he was admitted to the hospital. A decided convulsion was repeated an hour later. The wound, of charred character, partly healed, was thoroughly excised and a bichlorid dressing was applied. At 4:30 p. m. 5,000 units of antitetanic serum were injected into the muscles over the right shoulder blade; an enema of normal salt solution was given. Next day 5,000 units were injected at 11 a. m. Repeated convulsions lasting from a few seconds to two minutes occurred throughout the night; nourishment was refused, but he took water through a tube; 4:30 p. m., 3,000 units, 1 pint enema salt solution; January 7, 11 a. m., 3,000 units were injected; muscles contracted but not as rigid; four convulsions during past twelve hours. Five p. m., light convulsion; January 8, numerous convulsive seizures during night; refused nourishment, and chloral and sodium bromid, 10 grains each dose, but would take water; 3,000 units injected 11 a. m.; 3,000 units injected 7 p. m. after several convulsions, one lasting eight minutes though not formidable. January 9, noon, 3,000 units; 7 p. m., 3,000 units; muscles of jaw and neck relaxed somewhat, so that teeth could be separated an inch. January 10, 11 a. m., 3,000 units; 8 p. m., 3,000 units. January 11, 3,000 units. January 12, 11 a. m., 3,000 units; 7 p. m., 3,000 units. January 13, 11 a. m. and 8 p. m., 1,500 units. January 14 and 15, 1,500 units each. January 15 and 16, chloral, 20 grains. Patient discharged well, January 24. Temperature ranged from 99 to 101 F.; pulse 84-122; respiration 20-46; 55,000 units antitoxin total given.

DISCUSSION

DR. J. H. RANDOLPH, Jacksonville: In a case reported to the association in 1908, intraspinal injections of magnesium sulphate were successful in treatment.

DR. G. L. WINTHROP, Mobile: Of eight patients with traumatic tetanus four were not given antitoxin. They died. Four were given antitoxin after symptoms developed and recovered. In one case chloroform, in two cases intraspinal injections of magnesium sulphate, were given to control convulsions. The question of whether antitoxin given after the onset of symptoms has been benefical or harmful is unsettled, but in all cases where tetanus develops, the antitoxin should be given.

Rabies in a Human Being with Necropsy

DR. HENRY HANSON, Jacksonville: Patient, male, 9 years of age, was seen in consultation. Physician was called March 12, 1911, found patient suffering with severe throat symptoms and inability to swallow. Examination excluded diphtheria. Forcible depression of tongue temporarily enabled patient to swallow a little medicine. On attempting to drink water, it was forcibly expelled through the nose and mouth with general convulsion. After a few hours the attending physician found the patient much worse, nervous, respiration interfered with, muscles of deglutition paralyzed. The suspicions of the physician were aroused and inquiry was made as to the possibility of the patient having been bitten by an animal. It was found that three weeks previously a stray dog bit the boy severely on the calf of each leg. The patient was in bed three days before a physician was called, refusing food and drink, except small quantities of milk. During the course of the disease the thirst increased, but when water was brought, the patient would strike the glass from the hands of the attendant, or would jump out of bed in various directions, as though frightened. Death occurred on the afternoon of the fourth day, March 15. Permission for an autopsy was obtained. Post-mortem findings were characterized by their negativeness.

Microscopic examination, Anna Williams method: Bodies found within protoplasm of the large ganglion cells as described by Negri in 1903. Three rabbits inoculated, two subdurally (one dying from the operation), one intravenously. The two rabbits died with typical rabies on nineteenth and twenty-third days respectively. The brains of both rabbits showed Negri bodies in smears from Ammon's horn.

The Operative Treatment of Fractures

DR. CLARENCE HUTCHINSON, Pensacola: I do not advocate the operative treatment in every form and type of fracture. It is with the fractures of the shafts of the long bones that we have most to deal, and these fractures, with their marked displacement, with their consequent impaired or lost economic efficiency, have made and are making woeful commentaries on our so-called surgical skill.

The operative technic is comparatively simple and due care reduces the risk practically to nil. Rigid asepsis is the key note to success in fracture cases. Moderate cleanliness is not sufficient. Special care must be exercised in the preparation of the field of operation. Large moist compresses of green soap applied to the field for several hours and even days if the skin is thick or horny, followed by a germicide. The incision should be along a line where there is a minimum chance of damage to important structures. The incision should be adequate to expose the site thoroughly. Avoid unnecessary handling of sponges and instruments and never introduce anything into the wound except instruments necessary for handling fragments. Remove all clots and keep wound dry. Do not burden tissues with unnecessary ligatures and suture material—one tier of sutures is usually suffi-

cient. Put on strong plaster cast after operation and do not disturb wound unless indications are very positive for interference. Age is no barrier to operation; often the procedure is most strongly indicated in old persons. The shock is trivial. It is my rule to operate in all cases of fracture of the shaft of long bones in which there is marked displacement, especially where the economic efficiency of the individual is likely to be impaired from a questionable result.

Spontaneous Amputation of the Leg at Lower Third

DR. HENRY E. PALMER, Tallahassee: A negro male, aged about 70, three years before had an ulcer come under the fourth toe of the right foot; it resisted all treatment for a while and then remained without treatment five months; the foot began to swell and gangrene followed. He was in a semi-conscious state afterward from pain and morphin, which was liberally supplied. Several weeks later the foot suppurated at the ankle and he cut the few tendons with scissors. The flesh sloughed from the lower third of the leg, leaving the bone exposed 4 to 6 inches. In crawling down the steps the crippled leg caught and he fell, breaking the bone above the line of demarcation. A very good stump remains. This unusual termination illustrates the wonderful recuperative powers of some individuals under adverse conditions.

Huntington's Chorea

DR. RALPH N. GREENE, Chattahoochee: The patient, a negro male, entered the hospital for the insane twelve months ago with a diagnosis of Huntington's chorea. He had sustained a severe cranial wound in a railway accident, also gave a history of syphilis twelve years before.

DISCUSSION

DR. J. H. RANDOLPH, Jacksonville: Cases of chorea major are of sufficient rarity to warrant their exhibition. The occurrence of the condition in the negro race is of particular interest. Of five cases seen by me, only two, including this one, occurred in negroes. The majority of cases reported, are in males. Very little is known as to the etiology of the disease, although attention has been called to the possibility of its being an infectious disease of rheumatic origin.

DR. R. N. GREENE: This is the second case observed at the hospital. The other was a young white man who had had syphilis some years previous, was in the battle of San Juan and was injured by a fragment of a shell. Chorea developed after his return. In the present case the convulsive movements developed almost immediately after the injury, according to the statements of the patient. The convulsive movements are more marked now and have increased in severity.

DR. R. L. GOODBREAD, Mayo: I have a case of chorea major under observation at this time. Patient is a male, age about 30, has been an officer of the law, wounded twice seriously; at times is a hard drinker; denies having had syphilis. His spasmodic movements are confined to one side. The mind is not affected, so far as can be seen now. His present employer says his work is satisfactory. In recovering from the attacks of the spasmodic movements he takes no morphin; but when sobering up from a drunken "spree" morphin is taken. He resents persons not familiar with him noting the spasmodic movements.

Purpura Fulminans, Complicating Malaria

DR. F. CLIFTON MOOR, Tallahassee: There is considerable doubt in my mind as to the relationship between the purpuric symptoms exhibited and a very definite coexisting malarial infection. Most recent authorities give their opinion that the different types of purpuric disease depend on the severity of the affection or the anatomic position of the hemorrhages rather than on any essential difference in the etiology or pathology of the disease itself. As to the etiology of the condition or whether there is any definite etiologic factor operating in all cases, there is a decided difference of opinion. My patient is a male, aged 4, of good physical development, but rather rachitic head. Family history negative, except for a slight hemophilic tendency in the mother and maternal grandmother. Two cases of malaria occurred in the family the previous summer. During the three months preceding the present attack, the patient has had two attacks of remittent fever lasting five to ten days at intervals of two or three weeks. Coincident with a rise of temperature, the child exhibited a decided convulsive tendency. Attacks were acute and marked by sudden rise of temperature to 103½-104 F., accompanied by convulsions or vomiting, or both. Remissions, and sometimes intermissions, of a few hours occurred. Examination of the blood showed the estivo-autumnal type of malarial parasite. During one of the attacks, after the administration of quinin, the examination was negative; Widal, negative. Fourteen days after last attack, at 2 p. m., there was a sudden rise of fever, vomiting and convulsion within an hour. Six grains of quinin had been given daily, up to a week before, for seven days. A smear taken immediately after the convulsion showed crescents in considerable numbers. The disease progressed, following Henoch's classical description, death occurring at midnight of the second day, without convulsions. Deaderick describes several irregular types of pernicious malaria due to actual clogging of the small vessels of the brain with plasmodia and blood cells, mentioning particularly an aphasic, hemiplegic and amaurotic type and states that the pathologic condition as noted above has been definitely demonstrated. If this is the case, a simular condition existing in the cutaneous circulation might well account for the particular symptoms of the case. The treatment was symptomatic.

Other Papers Read

The following papers were also read: "Rupture of the Uterus," by Dr. E. W. Warren; "Review of the Treatment of Epithelioma," by Dr. J. Lee Kirby-Smith; "Diagnostic Value of Lumbar Puncture," by Dr. James H. Randolph, Jacksonville; "Pellagra," by Dr. R. L. Goodbrad; "Preliminary Report on Latent Malarial Carriers," by Dr. Hiram Byrd; "Malarial Infection, Diagnosis and Prophylaxis," Dr. Henry Hanson; "Medical Inspection of Schools in Florida," by Dr. L. A. Bize; "The Eye and Its Relation to Medical Inspection of Schools," by Dr. F. P. Hoover; "Congenital Stenosis of the Pylorus," by Dr. D. C. Thompson; "Contract Practice," by Dr. M. L. Crum, Bowling Green; "Strangulated Inguinal Hernia in the Female," by Dr. H. A. Royster, Raleigh, N. C.; "Pellagra," by Dr. J. J. Watson, Columbia, S. C.; "Thoracic Surgery and Demonstration of Intratracheal Insufflation," by Dr. B. Merrill Ricketts, Cincinnati, Ohio; "The End-to-End Anastomosis of Blood-Vessels," by Dr. G. J. Winthrop, Mobile, Ala.; "Relation of Medical Examiner and Insurance Company," by Dr. R. H. McGinnis, Jacksonville.

ILLINOIS STATE MEDICAL SOCIETY

Sixty-First Annual Meeting, held in Aurora, May 16-18, 1911
(Concluded from page 1748)

The Abuse of Local Treatment in Gynecology

DR. HENRY T. BYFORD, Chicago: I wish to condemn the inadequacy of college instruction, and to criticize the different kinds of local treatment taught and used in a routine indiscriminate manner by many general practitioners. Iodin and phenol are applied to the cervix when not indicated, and are therefore useless in a large proportion of instances. Abstraction of blood from the cervix to relieve chronic hyperemia of the uterus and adnexa is useless and injurious. Glycerin and ichthyol tampons are of homeopathic efficacy and sometimes act as irritants. As a support the tampon is apt to do more harm than good. The copious high temperature douche accomplishes nothing, except to clean out vaginal discharges and give the patient unnecessary trouble. Medicated douches have a certain value when used intelligently and in a thorough way. I advise the judicious omission of all local treatment not based on definite rational indications. Patients who cannot and will not avail themselves of operations or who do not urgently need them, do better under a regulation of their habits and a correction of pathologic or abnormal conditions of the system in general than to depend on the routine indiscriminate local treatment. Some are made worse by it. Medical knowledge is as necessary for the gynecologist as surgical training; the exclusively surgical gynecologist is only half a gynecologist.

DISCUSSION

DR. THOMAS J. WATKINS, Chicago: I would like to subscribe to what Dr. Byford said about the inefficiency of most topical applications in gynecology.

DR. O. B. WILL, Peoria: The American people are to-day busy in ferreting out and trying to rectify abuses of every kind. The medical profession is never backward in that line,

but when it comes to placing blame on the general practitioners for abuse in this line, I would like to have it understood that specialists are to blame for these abuses, if such there are, in this line of treatment. The specialist changes his ideas with such rapidity that the ordinary practitioner is unable to keep up with him.

Functional Kidney Diagnosis

DRS. L. E. SCHMIDT and H. L. KRETSCHMER, Chicago: The phenolsulphonephthalein test has apparently been of distinct value in a large series of cases, permitting or aiding in selecting cases suitable for operation. It has been found to be of great value in cases in which there were lesions of the lower urinary tract and the mixed specimens of urine were used: it is equally valuable where the urines have been collected separately and where a consideration of the functional activity of one or both kidneys is to be considered. The carrying out of this test repeatedly on one and the same patient at intervals of three or four days has shown an increase in the rapidity of elimination of the drug as well as an increase in the percentage of drug excreted, both in the first and second hours; and accompanying this, a distinct improvement of the patient clinically during the period of time that preparatory treatment was given. To us this seemed of paramount importance—in fact, no other functional test has ever given us the same opportunity to make similar comparisons. Considering the ease and accuracy with which the test can be carried out —in connection with the ordinary modes of examination—it is by far the most adaptable, as well as accurate, of any of the functional tests in use at the present time.

The Euglobulin Reaction in the Urine

DR. ARTHUR R. ELLIOTT, Chicago: Euglobulin in the urine is demonstrated by treating the urine, diluted with distilled water, with 50 per cent. acetic acid in the cold. A diffuse cloudiness, intensifying on standing denotes the presence of euglobulin or nucleoproteid. Physiologic chemists are not agreed as to the exact nature of the proteid precipitated by acetic acid, some claiming it to be nucleoproteid, others euglobulin. It may be that under differing conditions either one or the other may exist in the urine or both occur simultaneously, although nucleoproteid is much rarer and of secondary clinical importance to euglobulin. The clinical conditions in which the reaction occurs are reviewed and attention directed to the value of the test in differentiating certain harmless forms of albuminuria (cyclical, orthostatic, residual) are characterized by the occurrence of euglobulin in the urine, associated with serum-albumin, and such urines give the acetic acid reaction. This reaction is not observed in the urine in chronic nephritis. When these two facts are placed together the test becomes of value as a means of differentiating harmless from serious organic albuminuria. As a rule the more abundant the reaction, the better the prognosis. The cases giving rise to perplexity in diagnosis are those in which albumin in the urine constitutes the only or almost the only symptom. It is in such cases that the acetic acid reaction may prove of value.

Diagnosis and Treatment of Infections of the Renal Pelvis

DR. L. W. BREMERMAN, Chicago: A number of years ago I was treating these patients entirely by lavage of the renal pelvis, and eradicated the infection in the majority of cases, yet there were a small number that would not clear up so that the urine would be entirely free from bacteria. During the last two or three years I have been using, in combination with lavage, injections of autogenous vaccines, and my results have been nearly perfect. I have found that the cases all clear up much more rapidly this way than with either lavage alone or vaccines alone. The lavage is carried out about once every five days by injection, through the ureteral catheter, of a solution of one of the silver salts; silver nitrate solution is preferable. It is well, when using silver nitrate, to lavage the bladder with salt solution, leaving some in that viscus after the treatment to the kidney pelvis. If this precaution is not taken, the silver is apt to produce frequency of urination with tenesmus. The catarrhal and mild purulent forms will clear up very rapidly in some of the cases. I have seen cases in which from one to ten treatments were sufficient, the urine remaining quite bacteria-free, the symptoms all disappearing. These cases, however, are the more difficult to diagnose, and unless special care is taken the condition will be overlooked and will not be recognized until it becomes purulent, whereas if recognized early the pelvic infection may be eradicated absolutely.

Unilateral Pyelonephritis

DR. E. MAMMEN, Bloomington: It is of the utmost importance that an early diagnosis be made; hence it is necessary to make frequent urinalyses when a kidney is suspected. Thoroughness will lead to the right solution of a puzzling condition. It is never wise to dismiss the patient with the assurance that his kidneys are all right. To do this will lead to error. Recently I removed a kidney containing 40 ounces of pus and a large calculus from a man whose urine was examined six weeks before, and the assurance given him that his kidneys were all right. If these kidneys can be detected early it becomes possible to treat them successfully by incision and drainage or decapsulation, or removal of the calculus. If, however, the diagnosis is not made until the parenchyma of the organ has degenerated, then nothing short of complete nephrectomy will suffice.

The Clinical Determination and Significance of Some of the Peripheral Signs of Aortic Insufficiency

DR. FREDERICK TICE, Chicago: Of 124 cases observed by me clinically, the collapsing pulse was present in 118 (95 per cent.); the visible artery pulsation in ninety-five (76 per cent.); the capillary pulse in 112 (90 per cent.); the venous pulse in eight (7 per cent.); hepatic pulse in fifteen (14 per cent.); femoral snap in forty-three (45 per cent.); delayed arterial pulse in fifty (48 per cent.); double femoral murmur in 100 (88 per cent.), and in the femoral tones in twenty-six (24 per cent.). The typical collapsing pulse *per se* is not pathognomonic of aortic insufficiency. The collapsing character is not due directly to the amount of regurgitated blood, but is the result of vasomotor dilatation. Aortic insufficiency may exist without a collapsing pulse. A typical collapsing pulse may occur with perfectly normal and competent aortic valves, as is not infrequently observed in exophthalmic goiter and other diseases with vasomotor dilatation. The degree of the collapse of the pulse in an aortic insufficiency is no indication of the amount of regurgitated blood or the extent of the valvular defect.

Visible arterial pulsations, while very suggestive, are not pathognomonic of aortic insufficiency. The chief factor in their production consists of the arterial and capillary changes; the aortic valves may be normal and competent. Visible arterial pulsations are observed clinically in pseudo-aortic insufficiency of Lennhoff, v. Weissmayer and Huber, in exophthalmic goiter and other diseases associated with a high pulse-pressure. The capillary pulse is not pathognomonic of aortic insufficiency. Its presence depends on a disturbance of the capillary flow, in most instances a vasomotor dilatation and loss of arterial elasticity.

The double femoral murmur *per se* is not pathognomonic of aortic insufficiency. It is an artificially produced phenomenon. The essential portion of the phenomenon, the cardiodiastolic or arteriosystolic results from the backward flow of blood produced chiefly by the vasomotor dilatation. Aortic insufficiency may exist without a double femoral murmur. The phenomenon is observed in other diseases, with perfectly normal and competent aortic valves.

The Liberal Diet in Typhoid

DR. J. L. MILLER, Chicago: The general use of the milk diet in typhoid is due to the fear of injuring the ulcerated surfaces in the ileum. Milk, however, when it reaches the stomach, rapidly assumes a semisolid state on account of the action of the milk curdling ferment. Certain foods, as well-cooked cereals, soft-boiled or poached eggs, mashed potatoes, custards, jellies, gelatin, steam-cooked fruits, etc., are finely divided and cannot form hard masses on reaching the stomach. It has been shown that the typhoid patient's power

of digestion and assimilation is only slightly impaired, and he can therefore properly dispose of food. The proteid loss in typhoid is very great and may exceed ½ pound of muscle daily. It has been shown that this muscle waste can be avoided by a proper diet. Carbohydrates and fats offer the best protection to the body proteids, and these must be given in large amounts, as in order to make up for the excessive waste the typhoid patient requires twice as much food as the normal individual. It is practically impossible to give these patients sufficient food to entirely prevent the destruction of the body proteid. They should receive, however, at least 3,000 calories daily. If this were administered in the form of milk between 4 and 5 quarts would be needed. The milk, furthermore, does not contain a sufficient amount of carbohydrates, as about two-thirds of the food should consist of carbohydrates. A suitable diet consists of 1 quart of milk and 1 pint of good cream (1,650 calories), four or five eggs (350 calories), 8 ounces of sugar (1,000 calories), making a total of 3,000 calories. The cream and milk may be given as cream soups, with cereals, as ice cream, etc. The sugar may be added to cereals, cooked fruits, or lemonade, or taken in the form of jellies, honey, etc. With the above as the basis of the diet, any soft foods may be added for variety. With such a diet the extreme emaciation and anemia can be much lessened and convalescence shortened. There is abundance of statistical evidence to show that the mortality danger of perforation and hemorrhage is considerably less on the liberal diet than on a pure milk diet. The only unfavorable results reported are the somewhat greater frequency of relapses.

Cancer in Domestic Animals

DR. MAXIMILIAN HERZOG, Chicago: Popularly, all malignant tumors are generally called cancers; scientifically the term ought to be limited to the carcinomata, the atypical epithelial neoplasms. These in domestic animals, on the whole, show the same histologic and clinical properties as in man. However, they vary more in their clinical characters as to malignancy. They may assume a large size without necrotic and ulcerative changes. They may exist for a long time without producing metastases. On the other hand, they may early lead to necrosis and to metastatic formation. The connective tissue matrix in which they grow may show a very profound reaction or there may be practically no reaction at all. The epithelial cells of the carcinomata in domestic animals frequently go through their normal changes, such as cornification, colloid formation, etc., or they may exhibit metaplastic transformation. Calcareous deposits in carcinoma in domestic animals are more frequent than in man; osseous tissue is likewise frequently found. This may be due to early invasion of bone, with subsequent osteoplastic processes or to embryonic inclusions of osteogenetic tissue. While carcinoma in man among the civilized races is undoubtedly on the increase, we are unable to state whether the same is true of these malignant tumors in domestic animals. We do not possess up to date any reliable vital statistics concerning this point in domestic animals. Carcinomata in the latter frequently develop after a so-called precancerous state represented by long-continued irritation or inflammatory or other hyperplasias, catrices, etc.

The Present Status of the Etiology of Cancer

DR. F. ROBERT ZEIT, Chicago: It is known that absolute failure accompanies any attempt to inoculate animals with malignant tumors from other than the same or nearly related species of animals. The inoculation tumors may grow to such a size as to exceed the weight of the animal. The tumor cells of the successfully transplanted tumors are descendants of the implanted cells and retain the characteristic histology of the primary growth for many generations, as shown by Loeb. Transplantation can be carried on for many generations with increasing virulence. Rapidity of the growth of these transplanted tumors cannot be influenced by mechanical stimuli. Metastases do not occur; at least, they are very rare. In rare cases the transplanted carcinoma stroma may become sarcomatous.

Other Papers Read

The following papers were also read: "The Health Conscience and the Drink Problem," by Dr. C. B. Johnson, Champaign; "The Diagnosis of Acute Poliomyelitis," by Dr. L. H. Mettler, Chicago; "Double Hernial Sacs," by Dr. D. D. Lewis, Chicago; "Intestinal Toxemia," by Dr. M. H. Mack, Chicago; "A New Theory as to the Mechanism of Skull Fractures, and an Analysis of One Thousand Cases," by Dr. F. A. Besley, Chicago; "Arteriosclerosis," by Dr. M. A. Marcy, Peoria.

AMERICAN ORTHOPEDIC ASSOCIATION

Twenty-Fifth Annual Meeting, held at Cincinnati, May 15-17, 1911

The President, DR. A. H. FREIBERG, Cincinnati, in the Chair

Officers Elected

The officers elected are named in THE JOURNAL, this issue, under General News.

Standardization in Orthopedic Instruction and Practice

DR. ALBERT H. FREIBERG, Cincinnati: Orthopedic surgery is the surgery of chronic conditions. For this reason, changes for the better or the worse are the more difficult to appreciate. For instance, witness the great difference in opinion regarding the progress made in the correction of scoliosis. This is due less to the inequality of results than to variation in methods of mensuration and recording. I wish to plead for a recognition and determination of standard methods in mensuration and treatment, and in methods of instruction to patients. It would also be well to look for a plan by which every new method should be granted a careful trial by experienced, reliable men, to be made, if possible, with the cooperation of the proposer of the innovation. This might be accomplished by the establishment of a standing committee, to whom such questions might be referred. Perhaps another field of usefulness for such a committee would be in giving an expression of opinion as to the ideal preparation of the graduate who expects to specialize.

Use of Tuberculin in Joint Tuberculosis

DR. GEORGE B. PACKARD, Denver: In many cases in which there had been discharging sinuses for a long time, and in which there was mixed infection, the results were excellent without an autogenous vaccine. Though cultures were not made, it is probable that in these cases the active organism was the staphylococcus. If there was the slightest question as to the diagnosis, the Moreau or the v. Pirquet test was made, and always found positive. Skiagrams and microscopic examination of the material obtained by curettement confirmed the diagnosis, also in a case in which the secondary infection was severe and the reaction marked from tuberculin alone, without an autogenous vaccine. I would not use tuberculin as a routine treatment in all cases of joint tuberculosis. When either children or adults are doing well, and there is no evidence of the disease being active or progressive, and when the general condition is satisfactory, I would not use it; but when the disease is progressive and painful, in spite of protection and other general measures, I consider tuberculin to be a valuable adjunct to the treatment.

Spengler's I. K. Serum in Joint Tuberculosis

DR. JOHN L. PORTER, Chicago: Our present knowledge in regard to calculating the dosage is inadequate. Better results can be obtained when the dosage has been perfected. The giving of but one dose in seven or eight days has been found to be more satisfactory than more frequent dosages. Marked disturbance of the patient's comfort is the best guide for a reduction of the dosage. Too great a desire to hasten the cure will usually result disastrously. Contamination must be guarded against. The posterior exterior surface of the forearm, while the arm is held in flexion, is the most convenient and least painful site for the injection. Children seldom complain of the procedure, if the solution is injected

slowly. Tincture of digitalis and strophanthus should be administered throughout the entire treatment. Patients with severe or advanced heart lesions should not be treated with I. K. solution until complete compensation has been restored; and then only while in bed and with the greatest care and careful dosage. Jumping to a ten-fold dosage is both dangerous and unnecessary; and it is seldom that patients can tolerate this increase. When rapid immunization is desired, it is better to begin with a small dose of a higher dilution. Then, after an interval of ten days, this can be increased, up to lysis. A relatively small daily liberation of antitoxic immune substance could be better calculated by the physiologic blood force. I believe that I. K. serum has some curative properties and a constitutional effect on patients with tuberculous joints, and that it is worthy of further trial.

Joint Tuberculosis in Children

DR. LEONARD W. ELY, Denver: The orthopedic surgeon is responsible for part of the confusion that exists as to the treatment of joint tuberculosis. In the past, there has been a tendency to dwell too much on the non-essentials and to magnify points of difference. There are three reasons for the confusion, and three main rules of treatment on which one may unite, based on clinical experience and on laboratory study: First, deprivation of function; second, avoidance of secondary infection; third, fresh air and good food. In addition let us always emphasize the fact that radical operations are out of place in children's tuberculous joints.

DISCUSSION

DR. HERBERT H. GALLOWAY, Winnipeg: What support is there for the contention that the focal reaction produced by the subcutaneous injection of old tuberculin is dangerous? I feel that it is exceedingly valuable in doubtful cases, and have never had occasion to regret its use.

DR. WILLIAM S. BAER, Baltimore: I do not like the use of the Calmette reaction, because cases have been reported in which serious damage has been done to the eye by it; and it gives no information that the v. Pirquet does not afford. I use the latter first, to see whether there is tuberculosis anywhere in the system, and then employ the injection method, if the v. Pirquet is positive, in order to get a local reaction.

DR. JAMES K. YOUNG, Philadelphia: Under certain precautions, there is no danger in the Calmette test. The eye should not be diseased at the time, and should subsequently be protected.

DR. EDWIN W. RYERSON, Chicago: The great value of the Calmette and v. Pirquet reactions is when they are negative. I have seen a case in which after the injection of one milligram of old tuberculin a tuberculous peritonitis occurred. It resulted in such speedy death that I thought the injection had been instrumental in producing it.

DR. SYDNEY M. CONE, Baltimore: It is true that negative reactions are more valuable than positive. I prefer the v. Pirquet test to the others.

DR. G. G. DAVIS, Philadelphia: I do not believe in using the Calmette reaction. There is no more obstinate affection in childhood than tuberculous inflammation of the eye; and when an inflammation is started in the eye of a tuberculous child, no one knows when it will stop. The v. Pirquet test is absolutely without objection.

Treatment of Hip Disease

DR. EDWARD H. BRADFORD, Boston: Hip disease tends to deform the limb with destruction of the head and widening of the acetabulum. Thorough treatment should overcome this tendency. The threatened deformities are most effectively combatted by the employment of traction during the deforming stages of the disease.

The Conservative Treatment of Hip Disease

DR. JAMES K. YOUNG, Philadelphia: The treatment of hip joint disease should be based on the pathology as shown by the clinical symptoms confirmed always by the skiagram and where possible by exploratory puncture. Mechanical treatment, to be thorough and efficient, should combine absolute fixation of the pelvis and entire lower extremities, including the foot and combined with moderate traction.

DISCUSSION

DR. B. E. MCKENZIE, Toronto: I think Dr. Bradford could have used the Bradford frame to secure fixation and prevention of deformity. Through its use, one may bring down a femur that has risen up into the pelvis. I believe that the greatest force in the treatment of tuberculous bone-disease is the proper use of the sun's rays. I have given up the use of a brace for any kind of hip disease, except during the period of convalescence.

DR. CLARENCE L. STARR, Toronto: In my treatment by means of traction and extension, I encountered the difficulty of atrophy of the bone. I should like to know whether Dr. Bradford's apparatus does not produce this, as does plaster of Paris. My experience is that the atrophy is no worse in the case of patients subjected to treatment in bed than in those that have been allowed to be up and around, and that it disappears to a great extent subsequently. I should also like to know whether Dr. Bradford gets correction of the flexion deformity with that apparatus.

DR. E. H. BRADFORD, Boston: I use my frame in the acute stages for a short time, but the other method of treatment allows the child to walk around. The trouble with Dr. Young's apparatus is that the child cannot sit down well with it on. I have given up peroneal straps, because either the child or the nurse can loosen them. A skiagram would show that there is not the amount of traction that there should be, and the child cannot move the upper part of the body freely. I do not get much atrophy. The muscles, of course, do not develop as well as those of the leg in use; but they do increase somewhat with the splint on. You can get as much abduction with my apparatus as you wish.

DR. J. K. YOUNG, Philadelphia: I think my splint affords the combination of traction and fixation.

Cyst of the Upper End of the Femur, Simulating Hip Disease

DR. DAVID SILVER, Pittsburg: A boy, aged 5 years, presented a limp, limitation of motion, trochanteric thickening and atrophy of the thigh. A radiogram showed a cyst with fracture of the inner wall of the neck. At operation a cavity was found filled with sterile fluid and no lining membrane was seen. At a second operation, nearly two years later, for return of the limp, a dense lining membrane was present; and examination showed changes characteristic of osteitis fibrosa.

DISCUSSION

DR. HENRY L. TAYLOR, Montclair, N. J.: I operated in a case of cyst of the base of the neck of the femur in which the symptoms were a little obscure, but entirely different from beginning hip disease. The skiagram cleared up the diagnosis, showing a spot about the size of a dime, with enlargement of the bone inward over this area. A later observation showed that the cyst was about to perforate. I cut out a piece the size of a nickel, and the boy is perfectly well now, three years after the operation.

DR. G. G. DAVIS, Philadelphia: Dr. Silver has described the growth as osteitis fibrosa. There is nothing indicative of malignancy in that diagnosis. I have had a case of cyst of the end of the ulna, in which, after breaking in the thin wall (there being no proper lining membrane) I found some bloody clot; and up in one corner was a small amount of granulation tissue, which, when submitted to the microscope, showed beautiful myeloid giant cells. Therefore, you could call it a giant-cell sarcoma; yet the amount of new growth was extremely small. It is a question whether these two classes are not simply slight variations of the same kind of growth, those in which there is much proliferation being called myeloid sarcoma, and the others osteitis fibrosa.

DR. B. E. MCKENZIE, Toronto: I had a similar case in a woman 40 years of age. The cyst contained a bloody serous fluid and had no lining membrane. No curetting was done. Two years and a half have elapsed since the operation, and there is no indication of a reappearance. I also had a case that proved to be a chondroma of the hip. Though not a

cyst, it was regarded for a long time as a case of hip disease. The growth was removed by curettement. I adjusted the leg in a fully abducted position, allowing the ends of the bone to overlap and good union was obtained.

DR. W. S. PAER, Baltimore: I think that the treatment has to be followed out according to the pathology in each particular. On the whole, I wonder whether curettage is better in the long run. When there is any chance that the cyst is epitheliomatous in character, amputation should be done, and no attempt made to save the member.

DR. ALEXANDER R. COLVIN, St. Paul, Minn.: I have had two cases in which cysts not operated on have practically obliterated themselves.

The Prevalence of Infantile Paralysis in Missouri

DR. JAMES A. O'REILLY, St. Louis: The disease is sporadic over the entire state, but the great majority of the cases are in the northwestern and western portions. The greater number of patients live in the country, and away from railroads or electric lines. Comparing the cases in 1911 with those in the five years previous to 1910, it is seen that the disease is becoming much more prevalent, and that it amounted to an epidemic in 1910.

DR. ROBERT B. OSGOOD, Boston: During the last year, Dr. Lucas and I have been making some transmission experiments in regard to poliomyelitis. We were able to transmit the disease from the tonsils and adenoid tissues of monkeys as late as five months and a half after the attack was over. We also tried to transmit the disease from the nasopharyngeal mucosa of a monkey that had been kept alive by careful nursing, and found the germs present at the end of five and a half months. Later, we obtained the tonsils and adenoid tissue removed from a little girl six months and ten days after having had a spastic paralysis from this disease. The preparation from these was injected in various amounts into three monkeys. One of these animals developed typical signs of the disease accompanied with paralysis. This shows that human adenoid and tonsillar tissue can preserve the virus while no other symptoms of acute diseases are present.

The Operative Treatment of Knee Derangement

DR. NATHANIEL ALLISON, St. Louis: In spite of the fact that the diagnosis is usually easy, some cases that present the symptoms and signs of internal derangement at the knee show nothing abnormal when the joint is opened; and some cases have typical derangements in the knee, but do not present symptoms or signs tallying with any recognized picture. In these cases, exploratory arthrotomy is advisable and useful. A careful, clean operative technic, however, is absolutely essential. Conservatism must have been responsible for many old chronic knees, which might have been saved for joint function by simple arthrotomy.

DISCUSSION

DR. S. M. CONE, Baltimore: In regard to arthrotomy, we should be guided a good deal by what is found to be the cause of the trouble at the joint. Different organisms produce different conditions, of varying seriousness.

DR. H. L. TAYLOR: Most authors claim that imperfect extension is one of the cardinal signs of a chronic derangement of the semilunar cartilage, and we have also been used to looking at tenderness over the semilunar cartilage as a sign of this condition. I had a patient who had neither.

DR. J. E. GOLDTHWAIT, Boston: I have never seen a case of semilunar derangement in which complete extension was limited and in which it was not possible to relieve the condition by manipulation, unless the anterior third of the cartilage had been turned on itself, so that the section of it lay directly between the condyles. This is a very common thing to find.

DR. R. B. OSGOOD, Boston: The communication between the anterior and the posterior portions of the capsule is normally very narrow; and a foreign body in the posterior portion cannot be removed by means of an anterior incision unless one cuts through the lateral ligaments. In such cases, it is much better to make a posterior incision.

DR. CHARLES F. PAINTER, Boston: Exploratory arthrotomy and abdominal operations should be very rarely done.

DR. W. G. STERN, Cleveland: Lately, many surgeons have been injecting a solution of formaldehyd and glycerin into the knee-joint, with the idea of preventing infection and rendering operations on the knee-joint less dangerous. I have had patients treated in this way in whom severe infection had taken place, and I do not think that the method renders these operations less dangerous.

DR. JOHN J. NUTT, New York City: I do not think that brace treatment can be considered good, unless it relieves the patient's apprehension.

DR. G. G. DAVIS, Philadelphia: My experience with formaldehyd and glycerin is that unless the patient is anesthetized, the injection is an exceedingly painful procedure. One may open the knee-joint to remove synovial fringes, and fail to obtain motion again. In a great many of these apparently traumatic cases, if the joint be opened, a condition that, just for convenience, I would term rheumatic supervenes; and the patient is left with a more or less permanently crippled joint, in spite of the fact that primary union has occurred with no evidence of infection.

DR. N. ALLISON, St. Louis: With the absolutely necessary careful technic, the knee can be opened without any more fear on the part of the surgeon than he would feel in opening the abdomen. If the patient can be relieved in three weeks' time by means of operation, this is better than the wearing of a brace. I am not in favor of exploring knees when no symptoms have been made out; but in many cases the typical symptoms are not seen.

Tendon Transplantation and Silk Ligaments

DR. E. W. RYERSON, Chicago: If possible, the skin incisions should be so placed that the line of suture will not lie directly over the insertion of the silk. Strong braided silk is much better than several strands of finer silk, which tend to cut through. The value of silk ligaments in suspending the foot at a right angle in cases of drop-foot has undoubtedly become firmly established. The method is safer, easier and far more rational than the excision of a diamond-shaped piece of skin from the front of the joint. In the technic I have used for some time, the chief advantage is that the cords are passed beneath the annular ligament of the ankle, instead of merely beneath the skin. Plain corrosive-sublimate silk is apparently free from disadvantages. It seems advisable to omit drainage entirely. It is a good idea to apply a coating of sterile petrolatum to the skin wound and the surrounding skin. After the cast has been applied, a window is cut out over each incision, in order to allow the wound to dry and to facilitate dressing and the removal of the stitches, which should not be removed before the end of two weeks.

The Use of Intra-Articular Silk Ligaments for Fixation of Loose Joints in the Residual Paralysis of Anterior Poliomyelitis

DRS. BERNARD BARTOW and WILLIAM W. PLUMMER, Buffalo: The intention, by this plan, is to secure closer approximation of the loose articular surfaces, and to limit motion in certain directions, by placing check ligaments within the joint. These excite reactive inflammation, followed by organization of exudates, as a further limiting process. Resistance is thereby supplied to diminish or prevent deflection of the limb from the weight-bearing axis.

The Treatment of Paralytic Outward Rotation of the Foot

DR. GWILYM G. DAVIS, Philadelphia: In the treatment of infantile paralysis external rotation of the foot is often a troublesome feature. To overcome it I use, in some cases, straps or bands passing from a pelvic band to an apparatus fastened to the foot. In other cases, make an incision in the region of the greater trochanter, and while the foot is rotated strongly inward, sew, with silk sutures, the overlying fascia fast to the posterior edge of the greater trochanter beneath. In cases in which the tensor fasciæ femoris muscle is not paralyzed, this muscle can be loosened and its lower end turned posteriorly and sewn posteriorly on the greater trochanter and upper portion of the shaft of the femur.

What is to be the Attitude of the Orthopedic Surgeon with Regard to the Child with Congenital Ptosis of the Abdominal Viscera?

DR. JOEL E. GOLDTHWAIT, Boston: The type of child I wish to consider is the one who stands in an incorrect attitude, with the stomach out, etc. Such children have the arrangement of the visceral supports that is found in quadrupeds. One person in every five is born before the embryologic changes that differentiate the human species from the quadruped have taken place, as these occur in the latter part of embryonic life. The results are not appreciated until the children begin to walk. They have bilious attacks and difficulty in their nutrition, and later have round shoulders and various other deformities. The viscera slip down, and it is impossible to put in new supports. If, however, we can save the strain on a ligament, it will contract, though it may have been stretched considerably. If we can give a little support to the viscera, the children will stand better. We must use the force of gravity in such a way that instead of its constantly making the position worse, it pulls the parts to where they should be. The retroperitoneal fat, which is absorbed when the organs are dragged down, must be replaced in order to get the shelf of sufficient size to hold the viscus. Making the patients lie in bed with supports properly arranged will do much to accomplish this. They should assume this position two or three times a day.

DISCUSSION

DR. COMPTON RIELY, Baltimore: If the pelvis is tilted forward, it is a mechanical impossibility to get the ribs separated and the lungs expanded. In the treatment, one should make an effort to have the patient tilt the pelvis backward. This has to be done largely by means of exercise, especially of the leg muscles, doing away with heels on shoes, if possible.

DR. H. L. TAYLOR: A physical trainer in New Jersey who has had considerable success with neurasthenics devotes almost his entire attention to cultivating the abdominal muscles. One of his favorite exercises is standing on the head. The old knee-chest posture of gynecology might be a good one to have the patient assume. I have seen many neurasthenics who had none of these faults in posture, and numbers of persons who had them were not neurasthenics and had no arthritis deformans.

DR. JOHN DUNLOP, Washington, D. C.: I have found the stomach of such patients in the knee-chest position to be 5 or 6 inches higher than when they were trying to stand.

DR. J. E. GOLDTHWAITE, Boston: A good exercise is to have the patient crawl off the edge of the bed, letting his head hang to the floor, keeping this attitude long enough for the muscles to tire and the organs to sag back. Exercise should be kept up almost indefinitely. These people are not all invalids, and many have a reasonable degree of efficiency; but many tuberculous patients are poorly nourished for the reason that the machinery is not working right on the inside. The knee-chest position has the disadvantage of causing an additional sacro-iliac strain.

The Prevention and Cure of Foot-Strain

DR. ROBERT B. OSGOOD, Boston: The most common predisposing cause is abnormal muscle balance and the most common exciting cause, the modern ready-made shoes. An important point in reaching the diagnosis is the examination of the patient's well-worn shoes. If the muscle balance is nearly or quite normal, the symptoms being due to bad foot-wear, various flexible-shank shoes may be used. In other cases, rest in some form is the most rational immediate treatment. Persons beginning occupations that require a greater number of hours on the feet should take precautions against foot-strain by employing proper shoes.

A Removable Plaster Corset for Structural Scoliosis

DR. DAVID SILVER, Pittsburg: The advantages of the removable plaster corset are cleanliness, freedom from pressure, allowing the opportunity for frequent inspection, and permitting of the use of corrective exercise (in recumbency), either during the entire period of treatment, or in the later stages. The neck portion comes well up on the base of the neck. Instead of carrying the plaster up to the neck, it may be stopped at the shoulders and a metal neck and shoulder attachment used. The plaster corset may be reproduced in leather or metal.

DISCUSSION

DR. W. TRUSLOW, Brooklyn: If we begin the use of the corset before proper correction has been obtained, we have to meet the problem of the lack of symmetry of the form to mold the material over. The neckpiece is extremely uncomfortable, and patients do not like to wear it. I prefer a corset made of celluloid, with a simple opening in front. It can be reinforced with strips of metal.

DR. W. G. STERN, Cleveland: Celluloid is objected to by many on account of the danger of fire. If crystals of the chlorid of iron are added to the celluloid for the middle layer of the jacket, the material will be made practically non-inflammable.

DR. D. SILVER, Pittsburg: I do not think the neck-piece is uncomfortable, especially the metal one, because it can be bent until it fits comfortably.

An Unusual Pathologic Condition of the Sacro-Iliac Joint, Causing Sciatica

DR. SYDNEY M. CONE, Baltimore: I had two interesting cases, one a case of osteophytic growths following a railroad accident to a healthy man, aged 34. The patient injured his left pelvic region, and after a long period of invalidism was treated for sciatica and sacro-iliac loose joint for several years. *X*-ray examination and physical examination showed bony growths about sacro-iliac joint. At operation several bony growths were removed at this joint and about the great sacro-sciatic notch. Patient was promptly relieved. The second case was treated for a year or more for loose sacro-iliac joint. *X*-ray showed thickening of tissues above the acetabulum of left hip. Exploratory operation showed the joint to be normal, but periosteum thickened and chronically inflamed. Operation revealed thickened periosteum and a small osteophytic growth at the great sacro-sciatic notch. Curetting of this resulted in complete relief from all symptoms.

Peroneal Spasm

DR. CHARLES F. PAINTER, Boston: The rigidity of the peroneal muscles is very difficult to overcome, and no satisfactory explanation has been offered as to the cause of this phenomenon. I found in the tendon sheath, just where it began to play into the groove, an articular facet, which was not a part of the groove; and in the tendon there was a body that could be felt distinctly, causing the tendon to expand in both directions. I dissected this body out, and left the tendon intact. I left the foot entirely free. The second day after the operation, I could move the foot in any direction. The patient has had no recurrence. I performed the operation later in a series of similar cases, all but one of which resulted satisfactorily. In this case, it was difficult to tell how much of the rigidity was due to bony deformity, and how much to peroneal spasm. In view of the anomalies that anatomists have found to exist in the tarsus, I think that this might be a possible explanation of the condition.

Mutton Tallow and Iodin as a Substitute for Bismuth Paste

DR. DAVID SILVER, Pittsburg: Mutton tallow was used because it was felt that an animal substance would be better material to inject into the body than a mineral. It is generally supposed that mutton tallow becomes rancid easily, but a specimen that I had for a long time failed to show any evidences of this. The sinuses in which this substance is used are distinctly drier than are those injected with bismuth paste. This fact also makes the tallow better than petrolatum.

A Simple Splint for Snapping Knees

DR. A. J. STEELE, St. Louis: In this condition, in which the epiphysis is separated from the diaphysis, I presume that the ligaments are too long, so that the bone slips out and is forced back again. It occurred to me that if the tibia and

the femur slipped at all, it must be a lateral slip, and that it would be a simple matter to put a small brace that would not interfere with motion on each side of the knee. I devised this, which is a small sole-leather affair, slit at the back, and with straps going around the front. My patient has worn it continually for five or six months, and the snapping has pretty much passed away.

Pott's Paraplegia of One Year's Standing; Laminectomy; Almost Complete Recovery

DR. EMIL S. GEIST, Minneapolis: The location was the third and fourth dorsal vertebræ. Laminectomy was done, and an extradural abscess communicating with the posterior mediastinum was found. Drainage was allowed to remain in for three months. A beginning return of sensibility was noted four months after the operation. Motion and sensibility has entirely returned by the end of nine months after the surgical procedure. A brace was applied, and walking begun. The patient had an attack of pneumonia and pleurisy two months later, which ended in death. I have here the pathological specimens, gross and microscopic.

Other Papers Read

The following papers were also read: "Use of Tuberculin in Orthopedic Surgery," by Dr. W. G. Stern, Cleveland; "Treatment of Flexion and Abduction Deformity of the Thigh by Changing the Angle of the Femoral Neck," by Dr. J. A. O'Reilly, St. Louis; "Case of Coxa Vara," by Dr. J. Ridlon, Chicago; "Prognosis in Chronic Arthritis," by Dr. C. P. Painter, Boston; "Results of Treatment of Scoliosis at the Boston Children's Hospital," by Drs. R. W. Lovett and J. W. Sever, Boston; "The Anterior Heel," by Dr. A. G. Cook, Hartford, Conn.; "The Operative Approaches to the Hip-Joint," by Dr. E. G. Brackett, Boston; "Further Study of the Lumbo-Sacral Articulation," by Dr. J. E. Goldthwait, Boston; "Dyschondroplasis," by Dr. C. E. Coon, Syracuse; "Pathogenesis of Spur Formation on the Os Calcis," by Dr. R. G. Meisenbach, Buffalo; "Results of Muscle Group Isolation in the Treatment of Spastic Paralysis," by Dr. M. Allison, St. Louis; "Further Experience with Volkmann's Ischemic Paralysis by the Method of Robert Jones," by Dr. R. H. Sayre, New York City; "Exercise Treatment of Paralysis," by Dr. C. H. Bucholz, Boston; "X-Ray Studies of Arthritis Deformans," by Dr. G. R. Elliott, New York City; "Treatment of Scoliosis," by Dr. E. H. Bradford, Boston; "Orthopedic Treatment of Fractures of the Humerus," by Dr. F. E. Peckham, Providence, R. I.; "Suggestions as to Notes and Records in an Orthopedic Hospital," by Dr. D. B. Gibney, New York City; "A Modified Genuclast." by Dr. P. Hoffmann, St. Louis; "Bilateral Congenital Dislocation of the Lower End of the Ulna." by Dr. S. F. Jones, Denver; "Psoas Abscess from Retroperitoneal Lymph Glands," by Dr. M. H. Rogers, Boston; "Traumatic Arthritis as a Late Complication of Fractures of the Upper Extremity," by Dr. P. LeBreton, Buffalo; "Skiagraphic Study of Brittle Bones," by Dr. R. Hammond, Providence, R. I.; "The Adolescent Tibial Tubercle," by Dr. J. Dunlop, Washington, D. C.; "An Operation for Severe Grades of Claw Toes," by Dr. P. Hoffmann, St. Louis; "Correction of Relapsed and Untreated Cases of Equino-Varus," by Dr. M. Hoke, Atlanta, Ga.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

(Concluded from page 1751)

Renal Decapsulation in Chronic Nephritis in Children

DR. HENRY KOPLIK, New York: The number of patients operated on so far is limited; the operation is not curative, but undertaken only in cases in which relief from the symptoms of nephritis has failed by all other means, medicinal and dietetic. The operation itself does not endanger life. The improvement in the symptoms after operation has been striking in spite of the persistence of urinary signs of marked disease of the kidney. The freedom from symptoms is combined with a status of well-being lasting in some of the cases for a period of years. Exposure or indiscretion will not exempt the operated case from recurrence of edema and other symptoms, but the patients, as in one of the cases reported, recover promptly and remain well for a time, showing that the operation has not crippled the recuperative powers of the kidney.

DISCUSSION

DR. G. L. PEABODY, New York: I have had a number of these patients operated on with satisfactory results, as a rule. In one case the operation was done four successive times in a period of two years; after each operation a recurrence of symptoms took place, with a marked degree of anasarca closing the boy's eyes so he could not see and after each operation the improvement was marked and lasted for a number of months. He would disappear from the hospital and then come back again with headache, vomiting and almost complete suppression of urine, and in four instances the symptoms were relieved by removing the capsule which reformed after each operation.

DR. JAMES TYSON, Philadelphia: Recovery is not always prompt. It was quite delayed in two cases, but it occurred none the less. A marked symptom following operation was enormous diuresis, going to show that something must have occurred consequent on freeing the kidney from pressure or obstruction.

DR. LEWIS A. CONNER, New York: In one case of severe bichlorid poisoning with complete aneuria absolutely no impression was made on the kidney by the operation. That bears out Dr. Koplik's contention that the acute cases are not necessarily the most favorable.

DR. JAMES TYSON, Philadelphia: It has been questioned whether there is any advantage in operating on both kidneys. In the first, and, perhaps, the most prominent case, the kidney was operated on. Four weeks later the second kidney was operated on, but without any particular improvement.

Fever, Its Nature and Significance

DRS. V. C. VAUGHAN, JAMES G. CUMMING and JOHN H. WRIGHT, Ann Arbor, Mich.: In 1909 Vaughan, Wheeler and Gidley showed that continued fever can be induced in rabbits by repeated subcutaneous injections of egg-white and certain other proteins. This work has been continued, and it has been demonstrated that by varying the dose and the intervals between doses one can induce an acute, an intermittent, a remittent or a continued fever in rabbits by injections of foreign protein. Furthermore, it has been shown that by repeated intra-abdominal injections of various bacteria, acute fever, followed by immunity, will be produced. The authors hold that fever results from the parenteral digestion of proteins, and that fever must be regarded as a conservative process, although, like many of Nature's processes, it often leads to disaster. Its purpose is the disposal of foreign, dangerous material, and, therefore, it must be regarded as beneficent.

Effects on Blood-Pressure of the Various Anatomical Components of the Hypophysis

DRS. JOSEPH L. MILLER, DEAN D. LEWIS and S. A. MATTHEWS, Chicago: We have been able to demonstrate that the anterior lobe also contains a pressor substance, but its action is usually masked by excessive amount of depressor substance present. By first removing the depressor substance by extracting with alcohol, it was possible to demonstrate a pressor substance in the anterior lobe. It was determined that this pressor substance is confined chiefly to that portion of the anterior lobe adjacent to the cleft and which histologically is pars intermedia. Both portions of the posterior lobe contain a pressor substance. Cysts of the pars intermedia and colloid from the cleft, the secretion from the pars intermedia, have a distinct pressor effect. It is scarcely probable that the tissues so entirely different as the pars intermedia and pars nervosa should contain a pressor substance. Herring's theory that the secretion from the pars intermedia passes into the pars nervosa would explain these findings.

Failure to detect any pressor substance in the infundibular process, or stalk, might be interpreted as unfavorable to the view that the pressor substance passes through the stalk to the third ventricle.

Sporadic Elephantiasis

DR. W. GILMAN THOMPSON, New York: I saw four cases of elephantiasis occurring in persons who had never been in foreign countries and therefore were never exposed to filaria. Neither filaria nor plasmodia were revealed by blood examination. There was nothing to throw light on the etiology. There was found considerable hypertrophy of the entire skin. The fibrous tissue was enormously increased. There was the usual corneal edema. There was great enlargement of the sweat glands, and the lymphatics and blood-vessels were considerably increased in size. Only one of the four cases did not give a history of periodical febrile exacerbations.

DR. F. C. SHATTUCK, Boston: The conclusions which I came to in a recent paper on elephantiasis was that none of the theories in regard to the etiology of this disease is adequate. I believe the cause is either multiple or else entirely unknown in its basic principles. In a number of cases I believe that chronic infection is an element in the causation.

An Experimental Study of the Pain Sense in the Pleural Membranes

DR. JOSEPH A. CAPPS, Chicago: In hydrothorax the presence of fluid frequently so retracts the lungs and flattens out the diaphragm that the conditions are favorable for testing the sensation of the pleural membranes. This experiment was carried out by means of a long wire inserted through the hollow cannula after thoracentesis. Thirty-five cases were thus explored with the following results: The visceral pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura and a margin 1 to 3 inches broad near its peripheral attachment responded with pain over the lower thorax and abdomen. The remaining portion of the diaphragm when irritated was characterized by pain in the neck region. The pain elicited from the pericardial pleura was also referred to the neck. The neck pain was sharp and localized in a small area of skin, usually situated over the ridge of the trapezius muscle, an area which receives its sensory innervation from the third and fourth cervical segments. This pain is true referred pain and is transmitted from the diaphragm to the posterior cervical cord by the phrenic nerve. These experiments make it possible to map out quite definitely the portion of the diaphragmatic pleura which receives its sensory supply from the phrenic nerve, and the portion which receives its supply from the intercostal nerves.

Is There a Specific Treatment for Diabetes Mellitus?

DR. HENRY SEWALL, Denver: Evidence has been presented that in a certain proportion of diabetics beyond middle age the metabolism and general symptoms may be improved and the sugar removed from the urine, at least temporarily, through the administration of an infusion of lean meat acidulated with hydrochloric acid. In a single case of youthful diabetes, though neither beef infusion nor pancreatic infusion was alone efficacious, when the one followed the other, or a mixture of the two, after an interval of some hours, the urine became sugar-free. After the disease had persisted for some months this happy result could no longer be obtained. Nevertheless, the treatment, especially with the beef infusion, seemed to improve the subjective condition of the patient. No good results attended the use of the commercial pancreatic powder employed.

DISCUSSION

DR. S. J. MELTZER, New York: The fact is dwelt on by Dr. Sewall that if you add sugar to muscle extract and pancreas the sugar disappears. Recent work in the Rockefeller Institute shows that the sugar does not disappear at all, but is simply converted into higher sugar. Therefore, can it be said that in Dr. Sewall's case a cure has been effected simply because the sugar disappeared from the urine?

The Blood in Diseases Commonly Designated "Of the Nervous System"

DR. JOSEPH COLLINS and DR. D. M. KAPLAN, New York: There is no disease of the nervous system dependent on definite and unvarying disease of the blood. There are definite forms of secondary anemia that result from diseases of the nervous system, especially those due to toxic causes. There are definite blood conditions associated with perversion of function of some of the ductless glands, such as the thyroid. The alteration of the blood in anemias resulting from or coincident with certain chronic nervous diseases is not constant. The alteration may be in size, color, shape and distribution of the hemoglobin in the various cells, or in additions to the cells, such as granules. The white cells do not carry the burden of chronic disease as much as the red ones, although often here, as in conditions in which much degeneration takes place, even the white cells begin to show a darker protoplasmic body than is usually encountered in normal cells. The changes in size in the red corpuscles are usually encountered in the small cell or in extraordinarily large ones. The changes in color vary from a very pale pink to that of the bright red, and may change in very much degenerated cells to a grayish green. The contour of the cell may change from round to a cell that can be hardly recognized as an entity, and it may present the changes from an oval and a crescent to mere fragments of a cell. The abnormal enclosure are usually the granules. In the white blood-corpuscles the changes are due to the influence of invasion by morphologic or toxic elements. The great predominance of uninuclear neutrophils direct the attention of the observer to an invasion by bacteria. In an acute disease, irrespective of the number of white blood-corpuscles per cubic millimeter, the white cells show a pronounced uninucleosis. Lead produces changes in the blood that are recognized even by the beginner. Of great importance in connection with the red cells are the granules that appear in lead poison and disappear with proper therapy. In this instance it is essential to know the number of cells affected and the degree of granulation; meaning thereby, coarse granulation or fine granulation. The more pronounced and overwhelming the affection the larger are the granules and the more numerous the cells affected by them. In proper therapy not only do the granules become smaller but the percentage of affected cells noticeably diminishes. It seems at present possible to regard patients who show a relative lymphocytosis with a preponderance of large lymphocytes and diminution or absence in the eosinophils as cases approaching the hyperthyroid type. On the other side blood-smears that present the lymphocytosis with a preponderance of the small lymphocytes and coexistent increase in the eosinophils as types of hypothyroidism. The latter blood findings were found in cases clinically diagnosed as colitis with mucus in the dejecta, bronchial asthma with eosinophils and mucus in the sputum and in endometritis and membranous dysmenorrhea with mucus and blood in the discharged membrane.

DISCUSSION

DR. E. LIBMAN, New York: I have watched for the last two years disturbed states of the blood in ductless gland diseases and believe they are much more common than has been hitherto believed. It is well known in certain conditions in which the pituitary has been displaced in some way or the ovary has been removed, there has been a lymphocytosis. I have made it a routine practice when I see a patient with general nervous symptoms to look for lymphocytosis, and if I find it I take the case out of the functional group. I think we make a mistake in looking always for thyroid disease. I think we should look for lymphemia.

DR. F. C. WOOD, New York: I have seen a number of cases of high eosinophilia. In one there was 58 per cent. of eosinophils.

DR. W. B. JAMES, New York: For a number of years I have been in the habit of recognizing a marked lymphocytosis as common in cases of neurasthenia, particularly where there appeared to be a sexual element in it. I have watched a number of these patients through to recovery without permanent impairment and have therefore satisfied myself that it is a transitory secretion, that this lymphocytosis is temporary, associated with a depleted state of health, with neurasthenic symptoms, usually with some disturbance of the sexual organs.

DR. R. C. CABOT, Boston: I do not believe Dr. Collins meant to put it quite so strongly as he did about the relation of lead to the changes in the blood. Certainly we have the same changes in the blood without lead and we have lead without such characteristic changes in the blood. I suppose we all believe that this change in the blood is a valuable aid in the diagnosis of doubtful cases of lead poisoning, but we could not say that it had anything comparable at all to malaria parasites. Dr. Collins did not speak about an autopsy in the last case. Without that I do not think any of us would accept it as leukemia, or a new disease. This type of blood, such as pictured, is one of the variations around the leukocytosis and around the normal states which is familiar enough in a variety of conditions, but does not deserve to be placed as a new disease, or as leukemia.

DR. ALFRED STENGEL, Philadelphia: In view of what I have observed in regard to lymphocytosis it would hardly be proper to attach very far-reaching deduction to the occurrence of that condition. My opinion agrees entirely with that of Dr. James.

DR. LOUIS B. WILSON, Rochester, Minn.: The Kochers are at present going so far as to diagnose hyperthyroidism by lymphocytosis. We have made 800 examinations, and we find no evidence on which to base any such inference. We find lymphocytosis in a great many cases of syphilis, of liver disease, but in exophthalmic goiter, conversely, it is absent.

The Work of the Heart in Aortic Insufficiency

DR. W. G. MACCALLUM, New York: By means of an arrangement of the circulation in which the aorta is replaced by a long rubber tube the outlet of which is placed at varying heights and empties into a reservoir from which the blood is reconducted into the aorta, the output of the aorta may be studied and compared with the output of the ventricle per beat of the heart. The heart thus acts against controllable pressure and is unaffected by vasomotors. When the tension of the vessel wall is low, there is a systolic fling which distinguishes such a pulse wave from that made in a vessel whose walls are under high tension. In the former there is a high pointed up-and-down curve before the dicrotic notch is reached—in the pulse of high tension there is not. In the first the notch is low, in the second high. No change could be produced in any given pulse wave by the escape of the systolic quantity of fluid which produced that wave upon its expulsion from the heart. The character of the wave in aortic insufficiency depends rather upon the lax condition of the wall which meets the systolic impact and which is due to the partial emptying of the vessel by regurgitation during the preceding diastole. If we subtract the actual output per beat from the aorta, from the calculated amount expelled by the ventricle per beat we find very little residual blood when the heart is intact. The amount is great after the production of aortic insufficiency. The ventricle relaxes very widely and contracts as completely. Its work is greatly increased by its being forced to receive and churn out into the aorta and back that quantity of blood which regurgitates in addition to its usual normal output.

Percussion Signs of Persistent and Enlarged Thymus

DR. THOMAS R. BOGGS, Baltimore: This is recognized by medium percussion in the first and second interspaces to the left of manubrium, sometimes on both sides; rarely on right side alone. Differentiated from enlarged mediastinal glands by: (a) Superior and more superficial position. (b) Common position to left of manubrium. (c) By a special maneuver which depends on the movable character of the thymus and its attachments to the lower pole or poles of thyroid. (d) The maneuver. Patient in sitting posture, chin depressed. Outline lower border of thymus dulness. Then while pleximeter fingers are kept exactly in place, sharply retract head to fullest extent. Thymus dulness rises upward toward neck, leaving clear percussion resonance. Mediastinal adenitis, aneurysms and neoplasms do not give this shifting dulness.

DR. A. JACOBI, New York: I always find that I can with great facility diagnosticate about the size of the thymus. A good many of them at birth weigh only a few grams, 10, 13 and 15. They are not easily recognized when the babies are sitting up or lying down, but they are recognized when the baby is bent over. I have been teaching this method for the last fifteen years.

The Effect of Some General Hydrotherapeutic Procedures on the Blood-Flow in the Arm

DRS. A. W. HEWLETT, J. G. VAN ZWALUWENBURG and MARK MARSHALL, Ann Arbor, Mich.: Warm procedures increase the flow from two to ten times the original rate. Cold procedures usually lessen the flow, but the exercise and friction given in an ordinary cold shower may cause a moderate acceleration of the flow. The chief cause of the acceleration of blood-flow in an arm not directly exposed to the heat is a vasomotor reflex initiated by the stimulation of cutaneous sense organs, but the rise of body temperature accompanying hot procedures tends to prevent an excessive contraction of the peripheral vessels with chilling when the individual is exposed to cold. If the body temperature is subnormal an immediate reaction may follow cold procedures which are accompanied by friction and exercise, but the individual is liable to become chilly later. The chilliness which indicates a failure to react is accompanied by a slow rate of blood-flow in the arm. Reactions are usually but not necessarily accompanied by normal or moderately increased rates of flow.

DR. S. SOLIS-COHEN, Philadelphia: My observations have shown that brief application of cold will raise the body temperature in febrile conditions.

A Case of Pseudochylous Ascites

DR. F. P. HENRY, Philadelphia: The patient was a man aged 60 but looking at least 70. His most prominent ailment was ascites. From the time of his admission until his death, a period of about four months, he was tapped eight times, six to eight quarts of milky fluid being removed at each tapping. After tapping, a mass could be felt in the abdomen a little above and to the right of the umbilicus. It was about the size of an egg, hard and not tender on pressure. At the autopsy this mass proved to be a non-obstructive carcinoma of the pyloric end of the stomach. There was no enlargement of lymp-glands or dilatation of lymphatic vessels. The liver parenchyma was quite normal. No obstruction of the portal vein was found, although the complete dissection of this vessel and of the bile-ducts was rendered impossible by the tumor mass. As the patient was never jaundiced it is certain that there was no destruction of bile-ducts and, probably, that there was none of the portal vein. The most remarkable property of pseudochylous effusions is their resistance to putrefaction. A sample of the effusion obtained on February 18 and kept in an ordinary living-room at a temperature of 65 to 70°, is now, May 10, perfectly "sweet," in fact as devoid of odor as the purest spring water. This property is undoubtedly due to lecithin as proved by the fact that where this substance is extracted from it the fluid rapidly putrefies.

Further Studies on Sensitization in Tuberculosis

DR. V. C. VAUGHAN, JR., Detroit, Mich.: Since May, 1909, thirty-nine persons have presented themselves for examination at the Tuberculosis Clinic who have failed to react to a primary instillation of tuberculin into the conjunctival sac but have reacted to a second instillation in the same eye after an interval of ten to twenty-one days; only two presented any signs or symptoms suggestive of pulmonary tuberculosis. This conclusion was arrived at after careful physical exami-

nation and accurate observations of temperature and pulse for a period of one week. Among thirty-three apparently uninfected children, or at least children free from manifestation of active disease, ten gave a reaction of sensitization, while among twenty-three children of tuberculous parents, or associated with tuberculous cases who failed to react primarily none subsequently developed a sensitized reaction.

DISCUSSION

DR. F. T. LORD, Boston: We have injected a number of healthy guinea-pigs intravenously and intraperitoneally with tuberculin and afterward applied the ophthalmic test, but with negative results, indicating that non-tuberculous pigs are not capable of reacting from the standpoint of sensitization.

DR. LAWRASON BROWN, Saranac Lake, N. Y.: Some experiments have been carried on in the Saranac laboratory to try to produce sensitization in animals by the inoculation of various things. It has been found impossible to produce sensitization to eye test and subcutaneous test in animals which have not received previously very large doses of dead tubercle bacilli or living tubercle bacilli, and I cannot but feel that the fact that tuberculin tests may be negative the first time and if repeated in the same place show a reaction, is due to the fact that the patient has had a tuberculous infection at some time. It may never have shown clinically. I do not believe you can sensitize an individual who has not been infected with tuberculosis.

Tricuspid Stenosis, with Report of Five Cases

DR. THOMAS B. FUTCHER, Baltimore: Mine was a case of tricuspid, aortic and mitral stenosis, with autopsy, in which the diagnosis was made during life. In the autopsy records of the Johns Hopkins Hospital there have been only four other cases of tricuspid stenosis out of a total of 3,500 autopsies. There have been only eight cases in the medical wards, out of a total of 26,000 admissions, in which a diagnosis of tricuspid stenosis was made either from the physical examination or autopsy findings. Positive diagnosis by autopsy was made in only five cases.

NEW HAMPSHIRE MEDICAL SOCIETY

The One Hundred and Twentieth Annual Meeting, held at Concord, May 11-12, 1911

Under the presidency of DR. A. S. WALLACE, Nashua

Officers Elected

The following officers were elected: President, Dr. George W. McGregor, Littleton; vice-president, Dr. John W. Staples, Franklin; secretary, Dr. D. E. Sullivan, Concord.

The next meeting will be held at Concord, May 8 and 9, 1912.

The report of the secretary showed the total membership to be 538. The society is in excellent financial condition, a balance of $4,556.75 being available. Five hundred dollars was placed at the disposal of the Committee on Legislation, for legitimate purposes before the next legislature and the county societies were advised to appoint auxiliary committees of legislation to cooperate with the committee of the state society.

Dr. I. A. Watson, chairman of the Committee on History of Medicine in the State, reported that 1,000 copies of the complete manuscript records of the society from 1791 to 1854 had been printed and were ready for distribution.

Child Welfare

DR. Z. L. STRAW, Manchester: I wish to make a strong plea for the welfare of the child from the standpoint of the physician as well as the state, medical science and educational science joining hands that the physical health and energy might be conserved and nourished and developed equally with the mental in the hope of a uniform and well-balanced result. The commingling of children from all families and conditions for long periods largely increases the danger of contagious and filth diseases and renders their management more difficult, and if the schools are to continue for all children they must be kept morally and physically clean and safe. The state compels the child to attend school, and it is thereby bound to take cognizance of its physical welfare. The school is the only governmental department that directly assumes control of children's lives. At least nine out of every ten of all American children are subject to this control. Such control is maintained for the most part during the critical years from seven to fourteen. The open air school is an outgrowth of the work for better medical supervision of scholars, especially such as from any cause are interrupted or retarded. Approximately 16 per cent. of all who drop out do so on account of ill health; it is wasteful to the state and inhuman to the child to curtail its opportunities for future usefulness. This work cannot be thoroughly done without the school nurse supplementing the work of the physician.

DISCUSSION

DR. CLARENCE O. COBURN, Manchester: The most important thing in the inspection is the vaccination which has been a state law for a number of years and has never until now been enforced in Manchester. Fully one-third had not been vaccinated. Eighty per cent. had decayed teeth. Several were discovered blind in one eye without knowing it. We keep a card system and examine pupils who need it weekly.

DR. D. M. CURRIER, Newport: I wish to plead for the introduction of instruction of sex hygiene in schools, lady physicians to teach girls. Ignorance is exceedingly dangerous. Knowledge of this subject would be a safeguard to them.

Tetanus Following Accidental Injuries

DR. M. E. KEEN, Manchester: In one case tetanus was anticipated but did not occur, in the other it did occur though not anticipated. A boy, trampled on by a horse, received eight compound fractures of the skull, four being comminuted. The usual treatment, 1,500 units of antitetanic serum, was given the next morning. There were never any symptoms of tetanus and only a few drops of pus at any time. Patient was discharged well in just one month from date of injury. A boy, aged thirteen, was injured in coasting by colliding with a post. He did not lose consciousness; walked home. Examination: marked pallor of entire body surface; no abrasion; no discoloration. Temperature, 98; pulse, 84. Complained of slight pain in left hypochondrium. Slight vomiting. Some dulness in left upper quadrant extending toward axillary line. Probable rupture of spleen diagnosed and operation advised. Examination disclosed multiple rupture of the spleen, the upper end reduced to a pulp and the external and internal surfaces were fissured from end to hilum. Lower portion of left lobe of liver badly torn. It was necessary to utilize the diaphragm to hold in apposition the numerous fragments of spleen. On the eleventh day tetanus developed, and 1,500 units of antitetanic serum were administered and 20 grains of chloral by rectum. Salt solution, per rectum, one pint per hour and continued two weeks. There were fifteen spasms in sixteen days, to control which 21,000 units antitetanic serum were used. The method of entrance of the germ of tetanus is not known in this case.

DISCUSSION

DR. W. H. LYONS, Manchester: It is remarkable how very great internal injuries there may be with very slight evidence of it. The most interesting point in connection with the second case was the occurrence of the tetanus following the internal injury with no external lesion, not even the smallest abrasion to be seen.

DR. W. A. THOMPSON, Manchester: I wish to draw attention in the first case to the possibility that later on, perhaps in ten years, there may be signs of epilepsy, and it is a question whether it is necessary to close in the defects by putting back the flap over the wound or whether it is advisable to close the defect by artificial means, such as where an external lesion of the skull can be put over to prevent adhesion to the brain and prevent hernia. Whether it is advisable for this boy to undergo that again is a question in my mind. In

regard to the second case, I was greatly impressed with the difficulty of operating on the spleen in its sheltered position underneath the diaphragm. No doubt the boy owed his life to the early diagnosis made and the care taken of him.

Clinical Experiences With Serums and Vaccines

DR. W. GILMAN THOMPSON, New York City: While some of these preparations are now universally admitted to outrank all older therapeutic measures in potency and reliability, others are as yet in a purely experimental stage. Some have proved disappointing, and all present many unsolved problems as to details of technic. The wards of Bellevue and the Presbyterian Hospitals and the out-patient medical clinic of the Cornell Medical College afford abundant material for the study of these remedies. Flexner's anti-meningococcus serum is certainly miraculous in its curative effect in cerebrospinal meningitis of that origin and is injected at the same time the first tapping of the spinal canal is made. There are no untoward symptoms, even when used in a case due to the pneumococcus. The antitetanus and antirabic serums have also a fixed place in our therapy. The antityphoid vaccine is used successfully everywhere. The Hodenpyl anticarcinoma serum does not appear to have justified the hopes which were at first entertained of its effects. Tuberculin injections have proved strikingly beneficial. Colon bacillus vaccine in pyelitis gives very favorable results but does not remove the bacilli from the urine. Pneumococcus vaccine had no marked effect in ordinary cases but in a number of cases with retarded resolution there seemed to have been some moderate betterment. With modified technic it may sometime yield more beneficial results. In chronic gonorrheal joints infections antigonococcus serum and vaccine is very satisfactory. Three cases of streptococcal endocarditis in which the germ was derived from the patient's blood terminated in recovery. Stock vaccines gave uniformly negative results. The Rogers-Beebe exophthalmic goiter serums in an extensive experience have given many very remarkable results.

DISCUSSION

DR. JOHN G. W. KNOWLTON, Exeter: I am interested to know that Dr. Thompson feels pretty certain that the epidemics of meningitis are being affected by serum. That, of course, has had a good try-out for the last three years, and it is encouraging to feel that we have something to use in the treatment of meningitis. I believe in serum, and I tell my patients it is the thing to use in epidemic meningitis.

Rational Medical Treatment

DR. E. A. LANDMAN, Plaistow: The tendency of the day is to return to the simpler therapeutic methods and the few reliable drugs that have stood the test of time—to accept that only which can be proven and to discard that which is doubtful. As we grow older we become less and less disturbed by the new discoveries, unless they seem rational and in accord with known scientific facts. Is it not time that the physician of this new era of scientific therapeutics should reexamine his methods and subject them to the test of approved modern investigations? I criticize the too frequent use of the expensive trade-mark preparations, which are taken up with great enthusiasm only to be discarded on the introduction of newer ones; the day has gone by when one can bluff his way in practice. The general practitioner has no right to do major surgery when a skilful surgeon is available. The results of treating diphtheria by antitoxin and epidemic cerebrospinal meningitis by serum are striking instances of rational treatment. It is the height of folly to use vaccines as in pneumonia to stimulate an already over-stimulated system; when most needed they are useless, and when useful are not needed.

DISCUSSION

DR. HENRY L. SWEENEY, Kingston: I believe it possible to obtain good results by the intelligent use of drugs and I have faith in them when needed, carefully chosen, rationally given and pushed to effect.

DR. JOHN W. PARSONS, Portsmouth: Rational medical treatment is the use of reasonable, judicious treatment, based on theory or facts which we possess, although meager, concerning disease and its management, even if no positive or scientific explanation can be given for the action of the remedy.

Ophthalmia Neonatorum

DR. LOUIS W. FLANDERS, Dover: Five minutes' attention at the critical moment will save seventy years of blindness. Credé's method is now followed in practically all public institutions, but not in private practice to the extent that it should be. All physicians should employ it as a routine practice in obstetrics. Our last legislature passed a fairly stringent law relative to this disease. Every obstetric bag should contain one-half dozen soft gauze sponges and one dark amber Stearns dropper-bottle, filled with a 1 per cent. solution of nitrate of silver. Successful treatment demands skilled nursing and perfect technic—no condition in which the services of a trained nurse are more to be desired. The eyes must be cleaned of pus every hour, day and night; the warm boric acid solution is probably as good as any for this purpose. Every two hours let the nurse instill two drops of a 25 per cent. solution of argyrol freshly prepared, and once a day let the physician thoroughly apply to the everted lids a solution of nitrate of silver not stronger than 2 per cent. Allow the solution to stay on thirty seconds, then swab with normal salt solution. If you got a gonorrheal infection in an eye and the sight is lost where you did not use prophylactic treatment, public sentiment would hold you responsible and in a suit for malpractice, it would go hard with you.

DISCUSSION

DR. CHARLES F. NUTTER, Nashua: The non-gonorrheal cases are worthy of attention, as it is not necessary for the mother to have gonorrhea and the infant extremely sore eyes. The infection may come from the hands of the attendant. The nurse should be instructed to report to the attending physician the very first evidence of congestion.

DR. D. M. CURRIER, Newport: A certificate of health should be demanded of those about to marry. There should be a law in this state requiring every physician treating a venereal disease to report it to the board of health.

Anal Fissure

DR. CHARLES S. GILMAN, Boston: In sixty-eight cases referred by other physicians as hemorrhoids, anal fissure was found to be the primary disease for which relief was sought; in twelve cases hemorrhoids were present as a coexisting condition. In forty-six cases the physician had neglected to examine the parts. There is probably no pathologic condition so limited in extent which causes so much discomfort and distress; in most cases a single ulcer is present. It is more common in men—not rare in young children. Anything which weakens the anal tissues, thus rendering them liable to abrasions, will act as a predisposing cause while the passage of hardened fecal masses with or without foreign bodies in them is nearly always the exciting cause. The pathologic changes vary from a very slight abrasion to quite extensive ulceration. The chief and constant symptom is pain, always increased by defecation, thus encouraging constipation; in women often reflex irritation of the bladder, tenesmus and uterine disturbance. The earliest symptom may be a morning diarrhea. A thrombotic hemorrhoid often develops as a result of straining. Palliative treatment of little value. Operative treatment by incision and excision. Forcible dilatation of the sphincter may be followed with incontinence of feces; also an oblique incision of the muscle may cause this unpleasant complication.

DISCUSSION

DR. C. S. ABBOTT, Laconia: The lesson to be learned by the general practitioner from this paper is greater care and more frequent examinations of these patients.

DR. W. E. LAWRENCE, North Haverhill: I wish to report a case with symptoms of appendicitis. Operation gave no relief. Later fissure of the anus was discovered, incised, and the previous symptoms disappeared. There is always indigestion in these cases.

Drinking-Water as a Medium of Lead-Poisoning

DR. GEORGE A. WEAVER, Warren: I wish to report eight cases in which the symptoms did not, as a rule, appear until the water had been used about six months. Children were afflicted less often than adults and women were much more susceptible than men. It is more frequent in rural communities in this state than malaria, syphilis and alcoholism combined. In thirty samples of water from lead-conducted sources examined at the state laboratory all but one showed a considerable percentage of lead. Acute poisoning is rare. No symptoms are constantly present that may be considered pathognomonic. One group will show a predominance of gastro-intestinal symptoms; another interstitial nephritis and associated arteriosclerosis; a third may present sclerosis of the brain and cord; a fourth, multiple arthritis. In the case of a child, three years old, vomiting blood and having bloody stools, rectal feedings were resorted to for one week with complete recovery. In another case, a woman aged 30, the menstrual flow was scanty and finally stopped altogether; on discontinuing the water-supply, the color improved and menstruation became normal after six months suppression. Several patients when first seen were comatose; no motor paralysis; relieved by venesection and purging. In one instance there was complete hemiplegia; the patient recovered under appropriate treatment. In any obscure case in which the drinking-water runs through lead pipes, examine the water for lead.

Injury of Scalp

DR. WILLIAM E. LAWRENCE, North Haverhill: A young lady was thrown from an automobile, dragged beneath the machinery and a portion of the scalp, 6¾ by 7¾ inches, was torn from the top of her head. It was placed in normal salt solution after thorough cleansing, hair shaved and edges trimmed and sewed on, using a continuous suture, gauze dressing applied. On the third day, the center seemed dead and was dissected off, about one-third of the piece, and the wound dressed with a solution of chlorinated soda, 1 dram to the pint. At the end of one week only a strip of tissue, one-half inch wide, extending half way round the scalp, was left. The cranial bones were kept covered with petrolatum and the scalp dressed with compresses of normal salt solution. Granulations appeared, and by the fifth week covered the greater part of the vault; skin grafting was then commenced (Thiersch's method) and continued every other day for eight weeks. The new granulation tissue is firmly attached to the cranium and is quite immovable. There are no sweat or oil glands and this need must be artificially supplied.

The Treatment of Medical Subjects by the Lay Press

DR. HENRY O. SMITH, Hudson: The schools and the press have most to do with education. The monthly magazines, the metropolitan press and the local newspaper influence greatly the minds of their readers. How important then that the medical articles in the lay press be safe and sane in character? The *Youth's Companion* for many years has printed commendable articles on hygiene and medical subjects. *Life* and the *Cosmopolitan Magazine* pursue a far different course. We still read of sure cures for consumption—of soothing oils for cancer and unfailing remedies for conditions which shall be nameless. The public has a right to demand that the news columns shall be free from such misleading material. Intelligent people outside of the profession are realizing the need of work along these lines. Recently the president of the University of Minnesota exclaimed, "Would that Mr. Carnegie's next gift of $10,000,000 might be devoted to publishing in newspapers authoritative bulletins on hygiene and sanitation."

DR. EVA M. LOCKE, Nashua: There is a large class of people who are influenced by the advertisements of patent medicines to their own injury, sometimes irreparable. Cannot attractive articles be put before the public giving them accurate and valuable knowledge on diet, sex hygiene and sanitation? Let these appear in the press, in leaflets and in the fiction of the day. The text-books in the public schools on physiology should be carefully scrutinized. The women's clubs are doing a grand work in these matters.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

May

1 Personal Experience with Salvarsan. J. T. Geraghty and A. Keidel, Baltimore.
2 Cholecystitis: Its Complications and Sequelæ. A. M. Willis, Richmond.
3 *Diagnostic Value of Reflexes. A. Gordon, Philadelphia.

3. **Diagnostic Value of Reflexes.**—The diagnostic value of only such reflexes as the general practitioner can elucidate and estimate is discussed by Gordon. He says that apart from Babinski's sign and the paradoxical reflex, a certain apparently abnormal condition of any of the other reflexes by itself does not necessarily imply an organic disease of the nervous system. For example, an increased or diminished knee-jerk alone will not determine the diagnosis. A patient free from all other possible symptoms has no tabes, if there is only a markedly diminished knee-jerk or even absence of it. It is true that in 99 per cent. of normal cases the knee-jerk is never absent; nevertheless, Gordon has observed individuals in whom the knee-jerk could not be elicited even with Jendrassik's method. A much diminished knee-jerk in normal persons is not so rare as absence of it. However, such cases should be looked on with suspicion and thoroughly investigated. The same remarks are applicable to exaggerated knee-jerks. As a rule, such a reflex is the clinical expression of an involvement of the motor pathway in the brain or spinal cord. Nevertheless increased patellar tendon reflex is observed in normal individuals whose nervous systems are at the time of the examination in a state of tension; also in hysteria and neurasthenia. In hysterical hemiplegia the exaggerated knee-jerk may lead to errors of diagnosis and an incurable organic disease instead of a curable functional affection may be made out.

One symptom alone, therefore, is not reliable enough, no matter how evident it may be. In this latter case, for example, it will be essential to determine whether the palsy, gait, attitude, the state of tonicity of the musculature, etc., are those observed in genuine paralysis of cerebral origin; besides the presence or absence of other reflexes, such as Babinski and paradoxical. It is the association of symptoms that determines a diagnosis, but not one particular phenomenon. On the other hand, in the presence of manifestations which are apparently contradictory and difficult of interpretation, the presence of an exaggerated knee-jerk and of a much diminished knee-jerk or else of absent reflex will render considerable assistance in the determination of a given affection. Ankle-clonus in association with a plus knee-jerk is a good indication of an involvement of motor tract and therefore of an organic disease. It must not be forgotten, that to be a sign of organic disease, ankle-clonus must be prolonged, but not brief, as it is seen in hysteria or other functional disturbances of the nervous system. The exceptions to this rule are very few. If the condition of the knee-jerk and ankle-clonus present sometimes difficulty of interpretation, the same cannot at all be said with reference to Babinski's sign and the paradoxical reflex. They are always and invariably indications of an organic disease of the spinal cord or brain. Finally the state of pupillary reflexes is of great diagnostic importance inasmuch as they may lead to the proper diagnosis and therefore to proper therapeutic measures, when other symptoms are so slight that a diagnosis can be made with great hesitation.

Southern Medical Journal, Nashville, Tenn.

May

4 Increase of Insanity. J. T. Searcy, Tuscaloosa, Ala.
5 Influence of Uncinariasis on the Apparent Age of Children in the Cotton Mills. C. W. Stiles, U. S. P. H. and M.-H. Service.
6 Effects of Some Diseases, Habits and Heredity on Longevity. L. Sexton, New Orleans.
7 Surgery Outside of the Hospital. J. W. Alsobrook, Plant City, Fla.

8 Results with Gonococcic Vaccine. G. R. Livermore, Memphis, Tenn.
9 Five Hundred Cases of Gonorrheal Infection Treated with Gonococcic Vaccine. C. W. Shropshire, Birmingham, Ala.
10 *Treatment of Trachoma. H. H. Martin, Savannah, Ga.
11 Surgery of the Tonsils. H. Wood, Nashville, Tenn.
12 *Scientific Infant Feeding. M. O. Davis, Nashville, Tenn.
13 Case of Elephantiasis Caused by the Streptococcus Erysipelatus, Associated with the Bacillus Prodigiosus. W. M. McCabe, Nashville, Tenn.

10. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1920.

12. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2006.

Journal of the Tennessee State Medical Association, Nashville

May

14 *The Physician in Public. J. A. Witherspoon, Nashville.

14. Abstracted in THE JOURNAL, May 6, 1911, p. 1354.

New Orleans Medical and Surgical Journal

June

15 Diagnosis and Treatment of Diseases of the Mitral Valve. F. M. Thornhill, Arcadia, La.
16 Intermittent Claudication (Painful Spasmodic Limp). E. M. Hummel, New Orleans.
17 *Extradural Injections by Sacral Puncture in Genito-Urinary Neuroses. S. P. Delaup, New Orleans.
18 *Case of Tuberculous Meningitis with a Remarkable Ante-Mortem Rise of Temperature. H. D. King, New Orleans.
19 Thoracoplasty by Schede's Method. W. M. Perkins, New Orleans.
20 The Roentgen Ray in the Diagnosis and Prognosis of Pulmonary Tuberculosis. A. Henriques, New Orleans.
21 Prevention of Typhoid. W. F. Sibley, Robeline, La.

17. **Sacral Puncture in Genito-Urinary Disease.**—Delaup has done a sacral puncture and injection in seven cases. Only one patient was not benefited in any way. The author's experience has convinced him that extradural injections with normal salt solution, or any mild analgesic solution, offer the most promising results in abnormalities of urination due to faulty vesical innervation. Incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathologic conditions), can at least be ameliorated, if not cured, by extradural injections. The immediate effects of extradural injections are very rarely even disagreeable, and, when cautiously performed, the injections are in no wise dangerous to the patient, and no more painful than any other hypodermatic injection with a mild solution.

18. **Tuberculous Meningitis.**—Aside from the difficulty encountered in making a diagnosis, the most interesting feature of King's case was the accompanying temperature. The caprices exhibited by the temperature were puzzling and inexplicable. At times there would be distinct remissions, only to be followed by a spurt upward, and then a sudden downward plunge. Often the temperature oscillations were as much as 2 degrees within as many hours; one morning the temperature would be very high, and the evening temperature low. The next day conditions would be entirely reversed. The day following the withdrawal of spinal fluid the temperature dropped nearly to normal, only to rise very high the next day. The pulse was not always commensurate with the febrile reaction. On the fourteenth day of illness, the temperature began to maintain a more definite course, the ascensions and declinations were not as freaky. The temperature on the fifteenth day reached 105.2 F., with a pulse of 110 and respiration 46. Within the next two hours there was a decline of two degrees, though the pulse-rate was increased to 128 and respiration had dropped to 36. For five hours temperature (103 F.), pulse (128) and respiration (36) remained unchanged, and then within the short interval of three hours the temperature leaped to 106.5 F., pulse 140, respiration 48. This sudden change was noted at 6 a. m. and three hours later the temperature was 107 F., pulse 145, respiration 60. From this hour the temperature kept mounting higher. To avoid the chances of error in observation, several thermometers were used, all with the same result. At 1 p. m. the temperature was 107.8 F., pulse 170, respiration 76, and at 5 p. m. the temperature had reached 110.8 F. Forty minutes after this record the patient expired. A complicating terminal pneumonia hastened the end.

Journal of the Missouri State Medical Association, St. Louis

May

22 The Hodgen Suspension Splint: A Reliable Apparatus in Fractures of the Femur. N. W. Sharpe, St. Louis.
23 Cheilitis Glandularis Apostematosa with Associated Cheilitis Exfoliativa. R. L. Sutton, Kansas City.
24 Complete Traumatic Aniridia, with Injury to the Lens: Recovery with Useful Vision. J. Green, St. Louis.
25 Six Hundred Cases of Fracture of the Skull. E. A. Babler, St. Louis.
26 Pellagra. A. J. Vance, Harrison, Ark.
27 A Case of Nasal Polypi. R. S. Magee, Topeka, Kan.

American Journal of the Medical Sciences, Philadelphia

June

28 *Myoma of the Uterus, with Special Reference to Degenerative Changes. J. B. Deaver and D. B. Pfeiffer, Philadelphia.
29 *Cerebral Forms of Poliomyelitis and Their Diagnosis from Forms of Meningitis. H. Koplik, New York.
30 *Abscess of the Liver Occurring in Association with or Following Typhoid. E. M. von Eberts, Montreal.
31 *Irregularity of the Heart and Auricular Fibrillation. A. R. Cushny, London, England.
32 *Perforated Ulcer of the Stomach and Duodenum. G. G. Ross, Philadelphia.
33 *The Cellular Elements of the Blood in Tuberculosis. B. L. Wright and R. W. King, Las Animas, Colo.
34 *Relaxation of the Sacro-Iliac Joints as a Cause of Sciatica and Backache. R. L. Pitfield, Philadelphia.
35 Pneumococcus Peritonitis. G. Woolsey.
36 Freud's Psychology in Its Relation to the Neuroses. T. Burrow, Baltimore.
37 *Fluoroscopy of the Gastro-Intestinal Tract. E. H. Skinner, Kansas City, Mo.

28. **Myoma of the Uterus.**—Hyaline degeneration was noted as present in a marked degree in thirty-seven cases, or about 11 per cent. of 345 cases operated by Deaver and Pfeiffer. This does not represent the true incidence of the condition, since early hyaline change was not specially noted. They found nine instances of myxomatous change and three pronouncedly cystic, twelve in all (3.6 per cent.). Necrosis occurred twelve times, or 3.6 per cent. Calcareous degeneration occurred eight times (2.4 per cent.). Adding together all noteworthy benign degenerations occurring in this series there is a total of thirty, or 9.6 per cent. This is not to be interpreted to mean that approximately 10 per cent. of all fibroids will show such degenerative changes, but that of a series of cases which are considered under present standards to require operation, about 10 per cent. are causing trouble largely as a result of degenerative changes which have occurred in them. Four cases, 1.2 per cent., were diagnosticated pathologically as sarcoma. There were eleven instances of carcinoma associated with myoma (3.1 per cent.). Of these, six (1.7 per cent.) involved the body, and five (1.4 per cent) were situated in the cervix.

29. **Cerebral Forms of Poliomyelitis.**—The condition described by Koplik is one which he says is constantly mistaken for meningitis of the cerebrospinal acute suppurative or subacute tuberculous form. The onset of the illness is acute; it begins with a previous history of absolute health. After the acute symptoms set in, there may be in some cases an abatement and then a recurrence of symptoms of a cerebral nature, which gradually deepen. If the case is one resembling an acute meningitis, the symptoms are more active, with neck rigidity, pain in the neck, headache and delirium. If the case resembles the tuberculous form of meningitis, the patient lies more quiet, exhibits palsies of the cranial nerves and may even have marked hydrocephalus with distinct Cheyne-Stokes respiration and unconsciousness. In both sets of cases the delirium, sopor or coma lightens, the patients after a week or more of illness becoming brighter, and recovery proceeds. Lumbar puncture in all the cases reveals a clear or slightly flocculent fluid, without bacteria, and a cytology of 90 per cent. to 100 per cent. lymphocytes. An examination of the blood shows a leukocytosis at first of pronounced degree of polynuclear type. The onset of the disease may be ushered in by fever, which rapidly subsides to within a fraction of a degree of the normal and the major part of the illness runs its course with this temperature, which is practically normal. The diagnosis is made from the points of clinical course laid down in this paper. The prognosis is for the most part good, except in those cases which involve the nuclei of the nerves controlling respiration. In such cases the outlook is that of an acute bulbar paralysis when the extent of the lesion will

decide the fate of the case. The main point is to have in mind the great similarity of a certain set of these cases to those of tuberculous meningitis, and the absolute futility of a positive diagnosis without study of the case, lumbar puncture and all the clinical aids at our command.

30. **Abscess of the Liver and Typhoid.**—The thirty cases studied by von Eberts are divided into two groups, the first including those in which the presence of the *B. typhosus* as an etiologic factor was confirmed by bacteriologic examination; the second, those cases in which abscess occurred in association with or following typhoid infection, but in which the *B. typhosus* was not isolated. He concludes, as the result of his study, that abscess of the liver occurring as a complication or sequel of typhoid may arise independently of typhoid lesions of the gall-bladder or ducts, pylephlebitis, or the presence of suppuration elsewhere in the body. The recognition of solitary abscess is important because of the fact that only such cases are suitable for surgical treatment. Age and sex have no bearing on the incidence of liver abscess apart from their relation to typhoid generally. As predisposing factors, the virulence of the primary infection, traumatism, and pre-existing disease would appear to have been established. The frequency of liver abscess in relation to typhoid reported from hot climates may be accounted for (a) by the high incidence of typhoid infection in European drafts, and (b) by the pre-existence or occurrence during convalescence of amebic infection. The onset of the symptoms of liver abscess may occur early in the course of the primary infection, after a fever-free interval of days or weeks, or as a remote sequel.

The relation of typhoid carriers to the last class is a subject for further investigation. Of the symptoms of enlargement of the liver, fever, local pain and tenderness are the most characteristic. Jaundice is present in about 15 per cent. of the cases only. In about 50 per cent. of the cases the focus of suppuration is located in the right hepatic lobe. The occurrence of chills is apparently without relation to the organism or organisms found in the local lesion. There would appear to be ground for the assumption that foci of suppuration in the liver due to the *B. typhosus* may occasionally undergo spontaneous resolution. Pleuritis, either serous or purulent, not infrequently occurs as an associated complication. The only safe method of treatment is by incision and drainage, the route selected, either abdominal or transpleural, depending on the location of the abscess. Preliminary transperitoneal puncture should not be practiced owing to the danger of leakage and peritonitis. In future observations on such cases, von Eberts urges that the scope of bacteriologic investigations should include the use of media especially suitable for the cultivation of *B. typhosus*, as well as careful search for amebæ.

31. **Irregularity of the Heart.**—As regards the treatment of this condition, Cushny says that no disease of the heart responds so satisfactorily to digitalis and its allies as auricular fibrillation. But not all cases of fibrillation react thus brilliantly to digitalis; the slow irregular heart in which fibrillation is accompanied by impaired conduction is comparatively little improved. The condition which responds to digitalis most readily and satisfactorily is the rapid irregular heart of old rheumatic disease, in which fibrillation is present along with good conductivity through the bundle of His and a readily responding ventricle. Here digitalis reduces the pulse-rate rapidly from 120 to 150 to 60 to 70, and as the pulse falls the whole of the symptoms improve. If the drug be pushed the pulse continues to fall and may reach 40 to 50. Beyond this, digitalis generally induces other symptoms from the gastro-intestinal tract so that its dose has to be reduced. If it is abandoned altogether the previous condition soon returns, often in a less marked degree, and it is advisable to continue the treatment for several months. Digitalis does not arrest the fibrillation of the auricle, but it certainly reduces the number of impulses which reach the ventricle and thus lessens the rate of that chamber.

Cushny is not convinced that this reduction of rate, which is undoubtedly mainly inhibitory in nature, is the only effect of digitalis, though it is the only one which can be ascertained with certainty at present, and undoubtedly plays an important rôle in the action. When digitalis is administered in auricular fibrillation and the pulse is slowed, the rhythm becomes more regular and the beats more equal in strength, though complete regularity is not attained unless complete block is induced. If the drug is pushed, a curious new form of irregularity often presents itself in coupled beats or continued bigeminus in which each beat of the ventricle that arises in the normal way from an auricular impulse is followed by a contraction arising from the ventricle itself. In connection with the treatment of fibrillation with digitalis, Cushny calls attention to the fact that an attack of this condition may in certain circumstances be precipitated by this drug.

32. **Perforated Ulcer of Stomach and Duodenum.**—In the first of Ross' four cases the second perforation had occurred ¾ of an inch from the first one, and when the duodenum was opened, it was discovered that both perforations had occurred in the same ulcer, which was horseshoe-shaped, corresponding to the curve of the duodenum. In the second case, five months after the date of operation a piece of gauze 1 inch wide by 5 inches long was passed through a suprapubic sinus, which had persisted since the removal of the glass drainage tube. It was a piece of gauze of the tube dressing which had been cut thin at one place and had become separated, and at the next dressing had been pushed through the tube and left there when the tube was withdrawn. The third case illustrates several important aspects of peptic ulcer: (1) The combined peptic ulcer of the stomach and duodenum; and (2) a primary perforation of a gastric ulcer and a subsequent perforation of a duodenal ulcer. Here again the value of a gastro-enterostomy presents itself. The fourth case did not present any special points of interest, except a difficulty in diagnosis.

33. **The Blood in Tuberculosis.**—Wright and King found that in uncomplicated cases of tuberculosis the average number of red cells is normal or above, excepting during a short time prior to death. The hemoglobin percentage averages about 85 per cent. excepting during a short time prior to death. The red cells exhibit an increased resistance to the hemolytic action of salt solutions, this resistance, as a rule, being increased directly as the progress of the disease. Resistance to hemolysis will probably be found of diagnostic value. The prognosis becomes less and less favorable as the hemolytic index falls. The hemolytic index and the lymphocyte percentage bear a direct relationship in prognosis. The total white count increases directly as the disease progresses. In most instances the stage of the disease, in uncomplicated cases, can be more or less accurately determined by the total white count. The polymorphonuclear neutrophils have but little if any phagocytic action in this disease. A high polymorphonuclear percentage makes a bad prognosis. It is strongly probable that the lymphocytes are markedly phagocytic in tuberculosis. A high percentage of lymphocytes is a very favorable prognostic index. The authors claim that the following blood findings are positive proof of improvement in any given case: (a) Decreasing white count; (b) falling polymorphonuclear percentage; (c) rising hemolytic index; (d) rising lymphocyte percentage.

34. **Relaxation of the Sacro-Iliac Joints.**—Pitfield reports eight cases of this kind where the patients were relieved by postures, exercises and fixative apparatus, consisting of a specially constructed leather belt. He points out that these cases illustrate the futility of treating at least a portion of sciatica cases with drugs or any other measures save orthopedic ones. Having seen within two years twenty such cases in general practice and in hospitals, Pitfield believes that true neuritis or neuralgia (idiopathic) of the sciatic nerve is a rare clinical entity. It may be due to reflex causes, such as constipation, pelvic tumors, etc., but he finds it hard to believe that actual degeneration of the sciatic nerve is a common thing.

37. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1582.

Journal of the Indiana State Medical Association, Fort Wayne

May

38 Arteriosclerosis. H. R. Lowder, Bloomfield.
39 *Bacteriology, Pathology and Diagnosis of Typhoid. W. Shimer, Fort Wayne.
40 Probable Direction of the Progress of Gynecology in the Immediate Future. B. C. Hirst, Philadelphia.
41 *Differential Diagnosis of Labyrinthine Suppuration and Cerebellar Abscess. J. J. Kyle, Indianapolis.
42 Endothelioma tous Cyst of the Omentum. M. A. Austin, Anderson.
43 *Hygiene of Menstruation. J. M. Ketcham, Indianapolis.
44 Treatment of Club-Feet. J. L. Porter, Chicago.

39, 41 and 43. Abstracted in THE JOURNAL, Nov. 26, 1910, pp. 1924, 1927 and 1928.

Washington Medical Annals, Washington, D. C.

May

45 Results of Treatment at the Starmont (Tuberculosis) Sanatorium. G. M. Sternberg, U. S. Army.
46 Case of Cyst of Appendix. G. T. Vaughan, Washington, D. C.
47 Premature Separation of Placenta. A. L. Stavely, Washington, D. C.

Boston Medical and Surgical Journal

June 1

48 *Acute Inflammation of Long Bones, with Special Reference to Excision of the Diaphysis. R. G. LeConte, Philadelphia.
49 Action of Salvarsan on the Wassermann Reaction. H. Fox, New York.
50 Early Diagnosis of Pulmonary Tuberculosis from the Standpoint of Physical and Fluoroscopic Examinations. J. A. Honeij, Boston.
51 Neurology of Apraxia. G. V. N. Dearborn, Cambridge, Mass.
52 Accurate Optics. I. Hartshorne, Poughkeepsie, N. Y.

48. **Acute Inflammation of Long Bones.**—Sixty cases form the basis of LeConte's study. His findings are summarized as follows: The mortality and the extent of the necrosis following acute inflammation of bone depends not only on the promptness of surgical interference, but also on its thoroughness. Suppuration beneath the periosteum does not exclude an infection of the medulla, the presumption being that after three days the medullary cavity is also involved. Within seventy-two hours of the onset of the disease osteoperiostitis is localized usually in the cortex of the bone, and incision, disinfection and drainage are sufficient to bring about a cure. If there is no marked diminution of the symptoms in twenty-four hours after incision and drainage, the medullary cavity should be opened. When the medullary cavity is opened and found healthy, the dangers from infecting it are slight. In the majority of Le Conte's cases osteomyelitis was due to a neglected osteoperiostitis. In operations after the third day, where systemic symptoms are pronounced, the medullary cavity should always be opened and the opening should be sufficiently long to expose healthy marrow, and sufficiently broad and long to expose healthy bone. The mortality of 10 per cent. was directly due to delay in operations, and to inefficient surgery at the primary operation. In five of these cases Le Conte says the surgery was at fault, and had a radical operation been done he believes that all of the patients would have recovered. In one case the delay in operation was perhaps more responsible than the surgery for its fatal termination. It is but fair to say, he continues, that in collecting these sixty cases, perhaps forty more were rejected for various reasons, none of which terminated fatally, so that a mortality of 6 per cent. is nearer the truth.

Cleveland Medical Journal

May

53 Measurement of the Rate of Flow of Blood in Man. G. N. Stewart, Cleveland.
54 Gynecologic Problems of Interest to the General Physician. B. C. Hirst, Philadelphia.
55 Common Fractures and Results of Treatment. F. J. Cotton, Boston.
56 Relation of Liver to Diabetes. J. J. R. Macleod, Cleveland.
57 Drug Exanthemata in Relation to Anaphylaxis. H. N. Cole, Cleveland.
58 Case of Icterus Gravis Following Confinement at Term. H. J. Lee, Cleveland.

Journal of Experimental Medicine, Lancaster, Pa.

June

59 *Adenomata Originating from the Islands of Langerhans. R. L. Cecil, New York.
60 Relation of the Reactive Stroma Formation to the Transplantability of the Cancers of the White Rat. I. Levin, New York.
61 The Micrograph. A. C. Crehore and F. S. Mears, New York.
62 *An Experimental Study of the Question of Aspiration of Foreign Material into the Air Passages During Intratracheal Insufflation. T. S. Githens and S. J. Meltzer, New York.
63 *Action of Salvarsan on the Irritability of Nerve and Muscle. D. R. Joseph, New York.
64 *Bacteriology of Sputum in Common Non-Tuberculous Infections of the Upper and Lower Respiratory Tracts, with Special Reference to Lobar and Bronchopneumonia. T. W. Hastings and W. L. Niles, New York.
65 Resistance of the End-Piece and Mid-Piece of Complement Inactivated by Distilled Water. H. K. Marks, New York.

59. **Adenomata Originating from Islands of Langerhans.**—Cecil records a third tumor of the pancreas of the type reported by Nicholls and by Helmholtz. It occurred in the pancreas of a man sixty-three years old. For a year previous to his admission he had not been in good health. He was suffering from pain in the right lower quadrant of the abdomen, constipation, anorexia, loss of weight and some edema of the feet and ankles. The heart and lungs were normal; the abdomen soft and symmetrical. To the right of the umbilicus a mass 2 by 3 inches could be felt, somewhat tender and fixed to surrounding parts. The skin over the tumor was freely movable. The patient lost ground rapidly. On November 1 he passed about 10 ounces of blood per rectum. The urine contained no albumin or sugar. The patient died November 7. At the autopsy, there was found a large tumor, in the ascending colon, which extended up to the hepatic flexure. It was annular in shape. The outer surface was smooth and hard; the inner surface was papillomatous, with large necrotic ulcerated areas and covered with mucus. The lymph-glands in the mesocolon were not enlarged. Microscopic sections from the tumor showed it to be an adenocarcinoma. The pancreas was firm and pale. The pancreatic ducts were patent. At one point in the caudal portion, near the surface, but completely surrounded by pancreatic tissue, there was a small spherical tumor, the size of a French pea. On section, the cut surface measured 4 by 3.5 millimeters. The tumor was well circumscribed and enclosed by a delicate capsule within which it was freely movable. Cecil believes it is safe to conclude that the tumor developed from islands of Langerhans. Small encapsulated tumors of the size of peas, or even smaller, are occasionally found in the pancreas. These tumors are benign, and have a structure similar in all respects to that of an hypertrophied island of Langerhans. The distinctions between adenomata and forms of regenerative hypertrophy, sometimes so difficult to make in the breast, prostate, liver and other organs, is not easily drawn in the present case. The fact that one may encounter all gradations in the size of islands, from that of the normal island to that of the tumors, suggests that it is more reasonable to consider such tumors merely as hypertrophied islands rather than as adenomata originating from islands.

62. **Aspiration of Foreign Material Into the Air Passages.**—The authors' experiments seem to justify the conclusions that intratracheal insufflation protects the respiratory tract very efficiently against any invasion from the pharynx. The filling up of the pharynx with extraneous material, whether it be from the stomach or from the mouth, brings no danger to the trachea and bronchi. This holds true even if the animal is under deep anesthesia. On the other hand, the presence of a tube in the trachea or larynx without the protection of an effective current air stream, definitely facilitates the entrance of foreign material from the pharynx into the trachea. Anesthesia, which removes the protective action of deglutition, greatly increases the danger from aspiration in these cases.

63. **Action of Salvarsan on Nerve and Muscle.**—Joseph's experiments show that salvarsan is a comparatively inactive drug when applied directly to nerve and muscle tissue of the frog. In perfusion experiments with alkaline solutions, no detrimental action whatever was to be seen either on direct or indirect irritability. In bathing experiments, in which the concentration of salvarsan in the various solutions was surely much higher than that in which it reaches the peripheral tissues in the human subject through the circulation, the loss of irritability occurred only after a long period of exposure to the drug.

V. 191

64. **Bacteriology of Sputum in the Respiratory Tract.**—In their examinations the authors found only 38 per cent. of the infections of the respiratory tract below the glottis pure, and this percentage was reached only by carefully following Kitasato's method of handling sputa. They believe that lobar pneumonia may produce sputum free from pneumococci, and may undoubtedly be caused by organisms other than the pneumococcus. There is found a marked yearly variation in the organisms which excite inflammation of the respiratory tract. *M. catarrhalis* is usually considered a common secondary invader; but it may, and probably frequently does, assume pathogenic properties.

Western Medical Review, Omaha, Neb.

May

66 Tendon Transplantation and Tendon Separation for the Reduction of Congenital and Acquired Deformities. F. Borglum, Lincoln, Neb.
67 Local Versus Diffuse Peritonitis. C. Lieber, Omaha, Neb.
68 Pathologic Basis of Uterine Hemorrhage. P. Findley, Omaha, Neb.
69 Clinical Aspect of Uterine Hemorrhage. W. O. Henry, Omaha, Neb.
70 Lactic Acid and Milk. C. W. Melick, Lincoln, Neb.

Journal of Cutaneous Diseases, New York

June

71 *Epithelioma of the Upper Lip in a Pure Negro. H. H. Kerr and H. H. Hazen, Washington, D. C.
72 A Comparative Study of Dermatitis Repens and Acrodermatitis Perstans. R. L. Sutton, Kansas City, Mo.
73 A Case of Lichen Planus Bullosus. J. W. Miller, Cincinnati.
74 *Eosinophilia in Scabies. J. A. Kolmer, Philadelphia.

71. **Epithelioma of the Upper Lip in a Pure Negro.**—In a rather careful search through the literature at the Surgeon-General's Library, the authors have been unable to find the record of any case of epithelioma of the upper lip occurring in a pure negro. The entire left side of the upper lip and the outer third of the left side of the lower lip were involved. There were two deep ulcers, one at the middle of the upper lip, and one at the corner of the lower lip. The two were connected by a mass of fungoid, sloughing tissue. The bases of the ulcers were sloughing and dirty. The inner edge of the fungus mass, where it was invading the face, was stony hard and deep seated. The whole inner surface of the upper lip was involved as far as the gums. The muscles of the cheek were slightly invaded. The submental and submaxillary glands were much enlarged. A portion of the hypertrophic tissue was removed for diagnosis. Sections showed typical epithelioma; the cells were of the squamous type, and there were many downgrowths that were more or less united, and there were numerous epithelial pearls.

74. **Eosinophilia in Scabies.**—Eighteen cases of scabies were studied by Kolmer during an outbreak of scabies in an institution for children. All were well-marked clinical cases and were under treatment by means of hot baths and sulphur ointment. With the exception of scabies the children were otherwise healthy and represented the usual institutional type. During the first week the disease was characterized by a well-marked uniform eruption and numerous scratch marks. By the third and fifth weeks a few cases were practically recovered. The larger number, however, were quite refractory to treatment, suffered with many relapses, and during the sixth and eighth weeks the lesions were well defined. The disease was accompanied by a mild leukocytosis, according to the degree of severity, which reaches normal as the disease is cured. The eosinophils were relatively and absolutely increased in a fairly well-marked degree. Kolmer believes that this eosinophilia probably bore a relation to the severity of the disease, being highest during the acme of the eruption, and gradually reaching normal as the disease is controlled. The highest leukocyte count was 13,700; the highest eosinophil count 9 per cent.; the lowest 3 per cent.

Iowa Medical Journal, Des Moines

May

75 Syphilis from the Standpoint of the Gynecologist and Obstetrician. G. N. Ryan, Des Moines.
76 Anesthesia During Labor. A. H. McCreight, Fort Dodge.
77 School Life and Its Influence on the Development of the Future Mother. A. Crawford, Mount Vernon.
78 Postoperative Intestinal Ileus. C. Burnside, Des Moines.
79 Macroglossia. E. E. Harris, Grinnell.
80 Hematomyelia. A. D. Woods, Melbourne.
81 Symptoms and Differential Diagnosis of Tuberculous Hip-Joint Disease. C. M. Jacobs, Chicago.
82 A Case of Pellagra. W. E. Sanders, Baltimore.

Pennsylvania Medical Journal, Athens

May

83 *Observations of Mitral Stenosis. J. C. Wilson, Philadelphia.
84 *Treatment of Cardiac Irregularities and Cardiac Weakness. A. Stengel, Philadelphia.
85 *Blood-Pressure in Hypertrophy and Dilatation of the Heart. J. H. Barach, Pittsburg.
86 *The So-Called Nodal Rhythm of Mackenzie. J. Sailer, Philadelphia.
87 *Diagnosis of Hay Fever in Children. W. C. Hollopeter, Philadelphia.
88 *Treatment of Hemorrhage in Tuberculosis of the Lungs. J. Walsh, Philadelphia.
89 Surgery as a Prophylactic Measure Against Intestinal Complications in Typhoid Fever. L. J. Hammond, Philadelphia.
90 Pennsylvania State Pilots. W. C. Posey, Philadelphia.
91 Detachment of the Retina. G. B. Jobson, Franklin.
92 The Artefacts of Insanity. W. K. Walker, Pittsburg.
93 Total Blindness from the Toxic Action of Wood Alcohol, with Recovery of Vision Under Electricity. S. L. Ziegler, Philadelphia.
94 Diagnosis and Treatment of Eczema. M. B. Hartzell, Philadelphia.

83, 84, 85, 86. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1581.

87. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1672.

88. **Treatment of Hemorrhage in Lung Tuberculosis.**—Walsh considers Epsom salts one of the most important remedies in connection with hemorrhage. It usually has the revulsive effect of the emetic without producing emesis. In addition to its irritant action it dilates the intestinal blood-vessels and removes a certain amount of liquid from the circulation, thereby thickening the blood. It, therefore, practically takes the place of aconite, venesection, tincture of veratrum viride, emetics and table salt. It even takes the place of ligation of the extremities unless the hemorrhage is severe and continuous. A half ounce should be given at once and may be repeated in two hours, especially if the bleeding continues. If it appear necessary, in order to reassure the patient, to give something every few minutes, a half ounce of Epsom salts may be given at once and 10 grains in a teaspoonful of water every fifteen minutes thereafter. In the great majority of cases absolute rest in bed and Epsom salts are sufficient to control the hemorrhage. All the agents employed for this purpose are discussed by Walsh.

Colorado Medicine, Denver

May

95 Neurasthenia and Psychasthenia. E. W. Lazell, Denver.
96 Five Hundred Blood Observations According to Arneth's Method. W. W. Williams, Colorado Springs.
97 Medicolegal Aspect of Fractures and Dislocations from a Roentgen-Ray Standpoint. S. B. Childs, Denver.
98 A Case Illustrating the Value of Cesarean Section in Eclampsia. T. M. Burns, Denver.

Laryngoscope, St. Louis

April

99 This issue contains a complete index-medicus of oto-laryngology for 1910 and abstracts of the important papers published.

Virginia Medical Semi-Monthly, Richmond

May 12

100 Hematocele. G. T. Harrison, New York.
101 Prevalence and Prevention of Uncinariasis in Virginia. A. W. Freeman, Richmond.
102 Relation of Hookworm to Other Diseases. R. L. Raiford, Sedley, Va.
103 Other Work for Boards of Health—Added Laws if Necessary. S. G. Slaughter, Lynchburg, Va.
104 Lesions of the Sacro-Iliac Synchondrosis. J. Dunlop, Washington.
105 Pupillary Reaction in Health and Disease. C. W. Banner, Greensboro, N. C.

Lancet-Clinic, Cincinnati

May 27

106 *Treatment of Pernicious Anemia Associated with Achylia Gastrica. A. C. Croftan, Chicago.
107 Nitrous-Oxid-Oxygen Anesthesia in Surgery. H. J. Whitacre, Cincinnati.
108 State Requirements for Entrance to Medical Colleges. P. G. Woolley, Cincinnati.

June 3

109 *Interesting Gastric and Intestinal Cases. J. E. Greiwe, Cincinnati.
110 Data Concerning Rabies and the Efficiency of Pasteur Immunization. A. P. Cole, Cincinnati.
111 Methods of Teaching Practical Obstetrics. G. B. Booth, Toledo, Ohio.

106. Abstracted in THE JOURNAL, October, 1911, p. 1221.

109. **Gastric and Intestinal Cases.**—Three cases are reported by Greiwe. One deals with ulcer of the stomach and the development of the pylorie obstruction following. The skiagram showed a marked retention of the bismuth mixture eight hours after feeding. The second deals with a case of obstinate constipation, which by means of the skiagram was demonstrated to be due to a sharp angulation both at the hepatic and the splenic flexures of the colon. In the third case a calcareous mass completely filled the pelvis of the kidney and extended in a branched fashion into the right kidney substance itself.

Medical Record, New York

June 3

112 Present Status of Inoculation Therapy. M. J. Synnott, Montclair, N. J.
113 *Method of Diagnosing and Following a Fistulous Tract. J. M. Lynch, New York.
114 *Are Pneumonia and Rheumatism Specific Infections? T. G. McConkey, San Francisco.
115 *The Cause of Belching. D. Roberts, Brooklyn, N. Y.
116 Acute Gonorrheal Epididymitis. C. M. Walson, St. Louis.
117 Mental Suggestion as a Substitute for Anesthetics in the Removal of Tonsils and Adenoids from Children. F. D. Gulliver, New York.

113. **Method of Diagnosing a Fistulous Tract.**—The tracer Lynch has used for the past eight years (not before published) is a mixture of peroxid of hydrogen and a saturated solution of methylene blue. He has learned to appreciate the value of this method as a means of diagnosis, and of its almost unvarying reliability in those very complicated fistulous tracts where the communication between two fistulæ was so narrow as to make it impossible for any probe to pass no matter how fine, especially when the angle between the transverse and longitudinal fistulous tracts was very acute. He says that the peroxid of hydrogen will carry the methylene blue into the finest ramifications of the tract, the methylene blue stains the tract, and when the surgeon comes to operate it is a very simple thing to follow it.

114. **Are Pneumonia and Rheumatism Specific Infections?**—Briefly, McConeky's paper may be summarized as follows: (1) Pneumonia and rheumatism are not specific infectious diseases like typhoid or small-pox, but each is a mere symptom-complex dependent on and secondary to tuberculous vegetations or lesions on the pleura, pericardium, endocardium or periarticular tissues. (2) The streptococcus normally present in the mouth and nasal cavities is the most frequent secondary invader of this abnormal itssue; but staphylococci, Friedländer's bacillus and the specific microorganisms of typhoid, diphtheria, gonorrhea, etc., may also be secondary invaders as well. (3) Whether the symptom-complex called pneumonia or the one called rheumatism occurs, depends on the accident of the location of this damage of tuberculous causation. (4) If situated on the pleura, pneumonia is the diagnosis, provided consolidation occurs; otherwise it is called pleurisy. If situated on the joints alone or in connection with the endocardium or pericardium, it is diagnosed rheumatism. If situated on the endocardium alone and not followed by consolidation of the lung, as it frequently is, it is called endocarditis; but if consolidation occurs it is erroneously called pneumonia complicated with endocarditis.

115. **The Cause of Belching.**—Belching and fermentation are in no way dependent one on the other etiologically, says Roberts. Gas in the stomach, he says, is rarely anything but swallowed air, as true fermentation takes place in the stomach only as a result of actual stasis. Slight, unobtrusive eructation of gas after a full meal is not to be looked on as a morbid phenomenon. Any slight epigastric sensation and occasional eructation are readily exaggerated in the mind of the hypochondriacal. Belching is really a voluntary act, either attempted, permitted or performed in a more or less exaggerated manner to give relief from a real or fancied distress referred to the stomach. The sensation of distress may arise from any organ adjacent to the stomach. The most exaggerated form of belching results from temporary or habitual emotional states, the air not being raised from the stomach but merely gulped into the pharynx and brought up again. If belching gives actual relief from distress it is fair to presume, Roberts says, that the presence of air in the fundus of the stomach is at least a contributing factor in causing the discomfort. Belching, which originally has relieved, may be carried to extremes, particularly in the emotionally excitable. Such a reasonably produced aerophagia often obscures grave underlying disturbances of the circulatory system and the upper digestive tract, the belching being continued after all air has been forced from the fundus. Gas is complained of in a variety of abdominal abnormalities when careful questioning shows belching is practiced. The patient presumes the distress is due to gas. This is particularly common in the discomforts associated with disease of the biliary tract, appendix and colon.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 20

1 Nature of the Immunity Reaction. C. J. Bond.
2 The Hulton Colliery Explosion. W. A. Hatton.
3 Two Cases of Severe Injury Near the Knee. R. Parker.
4 *Vaginal Hysterectomy for Endometritis. F. P. Sturm.
5 A Case of Traumatic Pneumothorax and Pleural Effusion Successfully Treated by Resection. F. S. Rhodes.
6 The Standardization of Preparations of Indian Hemp. C. R. Marshall and J. H. Wigner.
7 *Duodenal Obstruction as Shown by Radiography. A. C. Jordan.

4. **Vaginal Hysterectomy for Endometritis.**—The following case is recorded by Sturn because an unusual, not to say heroic, method of treatment for a fairly common and very troublesome condition has resulted in a measure of success which, he says, is not often attained by the less drastic procedures usually carried out in cases of equal severity. A married woman, 39 years of age, who had been a hard worker all her life, and was the mother of a large and healthy family, complained of constant dragging pains in the groin and back, dysuria, menorrhagia and a profuse semipurulent discharge which was occasionally offensive. For several years she had been practically a chronic invalid, and so profoundly was her general health undermined by the constant pain and discomfort that both she and her relatives were convinced of the presence of malignant disease. She said that she had undergone several operations. Examination revealed a large "boggy" uterus, extremely painful on pressure, freely movable in every direction, with the fundus well above the pelvic brim. The sound passed 4 inches. The cervix, which was the size of a Tangerine orange, was studded with innumerable small semitransparent nodules and was very friable to the touch. The nodules were soft, there was no ulceration, and the general appearance was not that of malignancy. Pressure on the uterus caused quantities of muco-pus to pour through the cervical canal. The possibility of specific infection was excluded by repeated microscopic examinations for the gonococcus, which was never found. The chronic course of the disease and the very gradual deterioration of health from the long-continued pain and discharge were also points which were against the probability of malignant disease. On the other hand, the uselessness of any more scraping operation was so evident and the danger of ultimate malignant degeneration so real that Sturm had no hesitation in suggesting hysterectomy. The uterus was removed by the vaginal route. Sturm saw this patient only a few days ago—that is, about ten months after the operation. She was enjoying perfect health for the first time in many eyars. She is able to perform all the onerous household duties which fall to the lot of women of her class, even including the weekly washing. Sturm claims, therefore, that she is cured in the fullest sense of the term.

7. **Radiography in Duodenal Obstruction.**—A very careful radiographic study by Jordan has convinced him of the existence of the so-called Lane's kink. He found that duodenal obstruction is frequently associated with obstruction at the lower end of the ileum or in the large intestine. Many of the patients exhibit dropping, not only of the stomach, but

also of the large intestine. There is frequently great delay in the passage of feces through the large intestine, and in some cases there is considerable delay in the last portion of the ileum. However, the duodenal obstruction is often the most marked abnormality, and may be the only one which calls for active treatment. In such cases, Jordan says, the operation of gastrojejunostomy relieves all symptoms, and this operation may be expected to do more than place the duodenum at rest by cutting it out of the circuit. As Mr. Lane has pointed out, the jejunum, when attached artificially to the stomach, is supported in such a way that it cannot drop and cause kinking at the duodenojejunal junction.

Lancet, London

May 20

8 *Postoperative Lung Complications. W. Pasteur.
9 Mental Disorders and Suicide. G. H. Savage.
10 *Treatment of Malignant Growths by Radium. C. M. Moullin.
11 *Radium Treatment of Cancer. N. S. Finzi.
12 Diffuse Lipoma and Animals. Sir J. Hutchinson.
13 A Case of Thrombosis of the Superior Vena Cava and Great Veins. F. C. Davis.
14 Our Inability to Diagnose Gross Lesions of the Appendix. E. M. Corner.
15 A Case of Ovarian Cyst in a Nyasaland Woman. H. S. Stannus.

8. **Post-Operative Lung Complications.**—Pasteur endeavors to prove that deflation of the pulmonary bases, resulting from reflex inhibition of diaphragmatic movement, is an essential, if not the chief, factor in the causation of post-operative pneumonia, and that the rôle of the anesthetic is only a very secondary one.

10. **Radium Treatment of Malignant Growths.**—So far as our present knowledge is concerned, with the small quantities that we have at our command, Moullin has come to the conclusion that radium can only be relied on, and that to a limited extent, in cases of malignant disease in which growth is slow and the degree of malignancy relatively slight. On the other hand, it is of the greatest value in what may be called the pre-malignant stage; that is to say, in removing growths which not infrequently become malignant as age advances, without an operation and, what is very important, not merely for cosmetic but for clinical reasons, without leaving much of a scar; and there is good reason to hope that if the small quantities we possess now are capable of dealing with growths of relatively mild malignancy, larger amounts, when we get them, will prove equally successful in circumstances of greater difficulty.

11. **Radium Treatment of Cancer.**—Finzi has treated, or has under treatment, excluding rodent ulcer, altogether 177 patients with cancer. All except four of these were inoperable. He excludes three patients subsequently operated on, four cases treated for prophylaxis only, eight cases in which sufficient treatment was refused, and three cases not treated long enough to judge the result—in all eighteen cases. This leaves ninety-nine cases. Of the cases (twelve) in which growths have disappeared, two patients have died from intercurrent disease—one from cardiac disease and cerebral embolism, and the other from a strangulated umbilical hernia. In the first no necropsy was obtained, but there were no symptoms of recurrence; in the other there was a necropsy, and there were deep recurrences in the liver. In one case (lip) there is no local recurrence, but the marked cachexia (18 months after treatment commenced) leads Finzi to suspect deep recurrences; no definite sign of these is present, however. In two other cases there are recurrences. Many of the patients were treated for relief only, without any possibility of cure, but even then complete local disappearance took place in about 12 per cent., and there are several others well on their way to disapear. Very great relief was secured in twenty cases, substantial relief in forty-two, and no relief in twenty-five. Finzi's results show that in patients who would otherwise be doomed, complete local disappearance of the growth occurs in 12 per cent., relief of pain or other symptoms in 62 per cent., and no relief in 25 per cent. He claims that every local inoperable growth of suitable type should be treated with radium, and that prophylactic treatment should be used after every operation for cancer. It is necessary, however, to use large quantities of radium and metal filters at least 1.5 mm., thick of lead or platinum. Since Finzi has used 200 mg. of radium in his later cases his results are showing promise of being very much better than when he used 50 mg.

Clinical Journal, London

May 16

16 Recent Developments in Methods of Diagnosis. Sir W. H. Allchin.
17 Fibroids of the Uterus and Their Complications. C. Berkeley.

May 17

18 Ocular and Visual Conditions in Medical Cases. J. Taylor.
19 Medical Cases in Ophthalmology. P. Flemming.

Glasgow Medical Journal

May

20 *Acute Pneumonia: Its Prognosis and Treatment. G. A. Gibson.
21 Enucleation of the Tonsil for Chronic Disease. W. S. Syme.
22 The Roentgen Rays in Treatment. J. R. Riddell.

20. **Acute Pneumonia.**—The local treatment or use of external applications in pneumonia is decried by Gibson, although he admits that when there is pain, due to any pleurisy accompanying acute pneumonia, external applications of heat are extremely soothing. It is better, he says, under such circumstances, to employ small poultices, and change them frequently, than to envelop the patient in an extensive application. In certain cases of early acute pneumonia, in strong, robust individuals, the employment of cold, either in the form of the icebag or the cold water coil, will be found decidedly beneficial; and, lastly, when there is a high degree of pyrexia (and, still more hyperpyrexia), the use of sponging and the wet pack—and even the cold bath—may be absolutely necessary.

Medical Press and Circular, London

May 19

23 Clinical and Experimental Observations on Malignant Syphilis and Salvarsan. A. Buschke.
24 Acute Pancreatitis with Pancreatic Pseudocyst. R. A. Stoney.
25 Ionization by Salicylate of Soda as a Treatment for the "Rheumatic" Knees of Middle-Aged and Elderly Women. F. Hernaman-Johnson.
26 Present Condition of Vaccino-Therapy. H. Pritchard.
27 Dilatation of the Os Uteri in Labor. G. DeG. Griffith.

May 27

28 Treatment of Cysts and Pseudocysts of the Pancreas. W. Korts.
29 Hyperemic Treatment in Dermatology. W. K. Sibley.
30 One Hundred and Fifty-One Cases of Appendicitis Treated During the Past Three Years. R. W. Murray.

British Journal of Children's Diseases, London

May

31 A London School Clinic. M. D. Eder.
32 *Inherited Syphilis and Blue Sclerotics. J. D. Rolleston.
33 Acute Hyelitis Due to Bacillus Coli Communis as a Complication of Congenital Hydronephrosis. F. Langmead.
34 A Case of Stokes-Adams' Disease in a Boy Aged Fifteen. A. J. Cleveland.

32. **Inherited Syphilis and Blue Sclerotics.**—The principal features of interest in Rolleston's case are (1) the extragenital infection of the mother; (2) the spontaneous fracture of the humerus of the child; and (3) the condition of blue sclerotics in three generations. Although no Wassermann's reaction was performed, the history of the case and the position of the scar made it practically certain that a lesion on the lip of the mother had been a chancre. When three weeks old the baby lost all power in his left arm, but recovered the use of the limb in the course of a month without specific treatment, and when six weeks old had "thrush at both ends," which was probably mucous tubercles in the mouth and round the anus. Both sclerotics show a uniform pale blue coloration; irides grey, embryontoxon at the margin of each cornea. During the child's stay in the hospital the blue coloration of the sclerotics was more obvious on some days than on others. The mother, aged 27, a woman of fair complexion, presented an almost identical condition of the sclerotics, but the coloration was somewhat deeper, more nearly approaching a leaden hue. An arcus senilis was present in each eye. Beyond occasional smarting on exposure to wind and lacrymation following prolonged accommodation, her eyes had not caused her any trouble. She stated that her sister, a fair-haired girl, aged 16 years, presented the same condition, as did also their grandmother, now dead. Their two brothers, aged 37 and 22 years, respectively, were not affected.

Annales de l'Institut Pasteur, Paris

April, XXV, No. 4, pp. 289-368

35 Can Oxyhemoglobin Act as a Peroxydase? J. Wolff and E. de Stoecklin.
36 Fate of Components of Pancreatic Juice in the Course of Its Activation. M. Nicolle and E. Pozerski.
37 Bacterial Flora of Large Intestine of Horse. J. Choukévitch. Commenced in No. 3.

Bulletin de l'Académie de Médecine, Paris

April 25, LXXV, No. 17, pp. 523-544

38 *The Dangers in Treatment of Obesity. (Les écueils des cures d'amaigrissement.) M. de Fleury.
39 *Practical Treatment of Obesity. (Traitement pratique de l'obésité fondé sur l'étude des échanges organiques.) A. Robin.

38. **Dangers in Treatment of Obesity.**—De Fleury has often found a history of inherited taint or of trouble years before, suspicious of tuberculous glandular, pleural or bronchial disease, in persons with a tendency to obesity in adult life. He has also known of six or seven cases in which too vigorous treatment of the obesity was followed by development of active tuberculosis, probably the flaring up of long latent disease. In other cases the benefit of the anti-obesity measures was but transient. He insists on the importance of careful examination of the patient for signs of tuberculosis before attempting treatment of obesity, and not allowing the treatment to be such as to debilitate the patient, and on the necessity for keeping the patient under supervision during the entire course. The measures should aim not only to reduce the fat and ensure its more perfect oxidation but also to restore nerve and muscle force, modifying the diet completely without rendering it distasteful, with exercise and with plenty of water between meals, and one small tumblerful with the meals, one on rising and retiring, with another at 9, 10 and 11 a. m. and again at 4, 5 and 6 p. m. A half hour of out-of-door exercise three times a day, and especially in the evening, is excellent in toning up the muscular system; but still better, he declares, is a course of systematic muscular exercises according to F. Heckel's method of "morphogenetic myotherapy" or Bergonié's method of prolonged and frequently repeated faradization of a whole group of muscles at once. De Fleury has also obtained great benefit from very small daily doses of thyroid extract; but even greater effect can be obtained by stimulating the ductless glands to increased secretion by repeated subcutaneous injection of small amounts of a hypertonic artificial serum, such as a solution of 8 parts sodium sulphate, 4 parts sodium phosphate, 2 parts sodium chlorid and 100 parts water. This serotherapy stimulates the internal secretions and this in turn promotes the metabolism and the appetite increases while the food is utilized better, muscular tone is regained and the patient feels better in every way. If the urine shows traces of albumin with urobilin or indican and tube casts, he restricts the patient for three days to a glass of milk mixed with an alkaline water or skimmed, taken every hour. After this he discards milk entirely as well as all fattening foods and those that putrefy readily, as he believes that intoxication from the food is frequently the source of the obesity. He emphasizes repeatedly the importance of slow eating and long chewing, bradyphagia, he calls it, remarking "the American sect of Fletcherites does not include any obese members."

39. **Treatment of Obesity.**—Robin's method is based on study of the individual organic interchanges, especially the respiratory interchanges. Five small meals are allowed with a walk immediately after the first three, of half an hour at least, avoiding sauces and all beverages except very weak tea. The lunch at 11 a. m. of one or two soft boiled eggs and a little bread, followed by a walk, prevents the patient's being very hungry for the midday meal; the large cup of very weak tea at 5 p. m. and a cracker also reduces the appetite for dinner. He has the twenty-four hours' urine measured; if the amount increases under this régime the outlook is very encouraging. If it does not increase, more fluids should be ingested. The obese patient eating in this way will not feel the restrictions irksome but the total of calories is much below the physiologic amount for the weight. He gives the details of the menu and cites a number of examples to show the benefit from this method in the 200 cases in which he has applied it.

Bulletins de la Société de Pédiatrie, Paris

April, XIII, No. 4, pp. 153-218

40 Direct Lymphocyte Count in the Cerebrospinal Fluid Preferable to Centrifuging. (La numération directe des éléments figurés dans le liquide céphalo-rachidien, par la méthode de Jean Nageotte.) M. Nageotte-Wilbouchewitch.
41 *Hypertrophy of the Thymus. V. Veau. (Valeur de l'examen radioscopique et radiographique dans le diagnostic de l'hypertrophie du thymus.) M. Ferrand and C. Chatelin. (Hypertrophie du thymus; spasme de la glotte; tétanie et rachitisme chez un enfant de 8 mois.) C. Chatelin.
42 *The Biuret Reaction in Examination of the Stools. (Un détail de coprologie dans les états infectieux fébriles. La réaction du biuret.) H. Triboulet.
43 *Influence of Thyroid Treatment on Growth in Rachitis. G. Variot and Pironneau.

41. **Hypertrophy of the Thymus.**—Veau reports the case of a child with a suppurating gland, one each side of the trachea, behind the innominate vein, which he opened and drained and the child can now be regarded as cured. He advises operating in such cases if tuberculosis can be excluded. He also calls attention to the spasm of the glottis with general convulsions, accompanying brain lesions or other cause, and for which the thymus is not responsible, even though it may be unduly large. Thymectomy in these cases has no effect on the spasm of the glottis, as he has demonstrated by personal experience. In the idiopathic spasm of the glottis, a manifestation of tetany, removal of the thymus may cure the tendency, and he has reported a case of the kind, the child having no further spasms after the thymectomy although he had had twenty-seven attacks the day before and had been regarded as moribund.

Ferrand and Chatelin give skiagrams of a number of cases to show the great value of radioscopy to detect or exclude hypertrophy of the thymus, comparing the findings with the normal picture and with glandular disease. With the latter the outline of the shadow is knobby instead of the comparatively smooth outline of the enlarged thymus, blending with the heart shadow below. In their cases the glandular shadows were on the right side, while with the enlarged thymus the shadow was more in the center or protruding more on the left side of the spine, the whole looking like a large pear in some cases; in others the shadow is wider at the top than in the heart region. With glandular lesions the shadow is less opaque at the edges than at the center, while with hypertrophied thymus the shadow is of a uniform depth throughout. The shadows of the glands sometimes show as a chain and sometimes the scalloped outline on the right extends very high. When there are both a hypertrophied thymus and glandular lesions, differentiation is naturally difficult. Four typical cases are described in detail. Veau thinks that the possibility that the thymus may secrete a toxin which normally the parathyroids neutralize, is another argument in favor of thymectomy in case of tetany with suspicion of enlargement of the thymus. Chatelin reports a case of tetany and spasm of the glottis in a rachitic child in which nothing otherwise seemed to indicate the presence of an unduly large thymus but necropsy revealed a very large thymus with almost complete degeneration of the parathyroids. In the discussion that followed, Netter called attention to the importance of systematically examining for Chvostek's sign not only in infants but in children of all ages, and, when found, administering lime salts. He has found them very effectual in reducing the abnormally nervous condition of such children.

42. **The Biuret Reaction in Estimation of Intestinal Functioning.**—Triboulet has found that the biuret reaction may be observed as the manifestation of the non-assimilation of certain heterogeneous albumins, especially the casein of milk, but as a rule it is encountered only with intestinal catarrh. This catarrh may occur during the incubation or as a symptom or sequel of acute infection, and with the biuret reaction its progress can be traced. Intestinal catarrh is far more frequent in acute infections than has hitherto been recognized; it explains the loss of appetite and of weight. The inability to assimilate fats and casein which results from this intestinal catarrh confirms the importance of dieting in the course of the acute infections. Patients sick with typhoid, measles, pneumonia, etc., may be unable to digest even small amounts of milk; their ability in this line is instructively demonstrated by the biuret reaction in the stools: About 2 c.c. of stool is stirred into 4 c.c. of a 5 per cent. solution of sodium

carbonate and filtered. Then 2 c.c. of sodium hydrate is added to the filtrate and into this is added, a drop at a time, 5 or 6 drops of a 2 per cent. solution of copper sulphate. A blue disk forms with normal stools, while the tint is a reddish violet with intestinal catarrh or non-assimilated casein.

43. **Thyroid Treatment in Rachitis.**—Variot and Pironneau gave the thyroid extract merely to hasten the growth of the children, which was abnormally backward. In the five cases reported the effect was marked, the children rapidly increasing in height under the influence of the mild organotherapy, and without displaying any evidences of intolerance. They seemed to benefit in every way by the thyroid treatment, becoming more intelligent and lively during the two-weeks' and six-weeks' courses with an interval of two months.

Presse Médicale, Paris

May 6, XIX, No. 36, pp. 361-376

44 *Vestibular Nystagmus. M. Lermoyez and A. Hautant.

May 10, No. 37, pp. 377-384

45 The Domain of Psychiatry. G. Ballet.

44. **Vestibular Nystagmus.**—Lermoyez and Hautant discuss the mechanism of nystagmus under the influence of cold or heat, showing how the features of the nystagmus are able to localize the seat of the trouble in the semicircular canals. It is possible by this simple temperature test for the general practitioner to determine whether the labyrinth is becoming involved in case of middle ear disease, as injection of hot or cold water into the ear induces the characteristic nystagmus. They give illustrations of the technic.

Revue de Chirurgie, Paris

May, XXXI, No. 5, pp. 513-648

46 *Arteriovenous Anastomosis for Endarteritic Gangrene. E. Quénu.

47 Isolated Fracture of the Lesser Trochanter. A. Binet and A. Hamant.

46. **Arteriovenous Anastomosis for Endarteritic Gangrene.**—Quénu reports a case of arteriovenous anastomosis which, he says, brings to twenty-eight the total on record. He reviews them all, his final conclusions not being at all favorable in regard to the ultimate outcome; the results obtained in operations on dogs can not be applied to conditions in the clinic where the diseased vessels render an inverse circulation scarcely possible. He knows of only one case (Wieting) in which the gangrene was permanently arrested by the anastomosis, and in this case the gangrene had been merely threatened. Quénu says that the best means to combat the chilliness and local asphyxia is by cutting the nerve-trunks and shutting off the nerve-supply from the limb. When the limb becomes warm again after the arteriovenous anastomosis this indicates, he thinks, that the arterial blood finds its way down through the vein, but only mixed with venous blood and incapable of nourishing the tissues efficiently.

Semaine Médicale, Paris

May 10, XXXI, No. 19, pp. 217-228

48 *Thrush in the Lungs. (Le muguet pulmonaire et ses rapports avec la dothienentérie.) C. Garin.

May 15, No. 20, pp. 229-240

49 *The Diagnostic and Therapeutic Importance of the Knee-Chest Position in Internal Disease. (La position genu-pectorale dans les maladies internes.) L. Cheinisse.

48. **Pulmonary Thrush.**—Garin reports the case of a woman aged 41, convalescing from typhoid, when mycotic stomatitis developed with general symptoms and albuminuria, moist râles at the apices and dulness over the supraspinous fossæ, with profuse thick sputum, suggesting that of pneumonia, but found to contain the fungus causing thrush. The patient succumbed a week later in progressive cachexia. The necropsy findings showed actual thrush of the lungs but guinea-pigs inoculated with the parenchyma of the lungs did not seem to be affected. Artault has reported a similar case, likewise in a typhoid patient after defervescence, but his patient recovered. It is possible that such cases are comparatively frequent. Thrush should be suspected when physical signs develop at the apex during convalescence from typhoid fever. It may prove possible to obtain unexpected recoveries by iodid treatment. In the case reported the naked-eye aspect of the lung suggested ordinary tuberculosis except for the absence of tubercles and of enlarged glands; the liver and spleen were both abnormally large.

49. **Knee-Chest Posture as an Aid in Diagnosis and Treatment of Internal Disease.**—Several French writers have recently published cases of effusion in the pericardium in which the patients found relief only when the knee-chest position was assumed. This was observed with pericarditis following rheumatism or scarlet fever, and kidney disease, and Hirtz even asserts that when relief from the symptoms on the part of the heart is obtained only in the knee-chest position, this testifies to the existence of pericarditis with effusion. In a case reported by Cheinisse, however, there could be no question of pericarditis, and yet the patient instinctively sought relief in the knee-chest position during recurring attacks of severe pain above and to the right of the umbilicus, radiating to the epigastrium, and certain features of the anamnesis suggested the possibility of a duodenal ulcer. Umber reported last year a case of duodenal ulcer in which the patient found relief only in the knee-chest position; the ulcer in this case was in the posterior wall of the duodenum and was adherent to the pancreas. Duodenal ulcer is sometimes accompanied by a reflex dyspnea, suggesting pericarditis, and Wynter has recently called attention to the absence of abdominal respiratory movements as an indication of pericarditis. On the other hand, in some cases with symptoms ascribed to a perforated gastric ulcer or peritonitis, they proved to be the manifestations of a pericarditis, and Voelcker has recently reported the case of a child with supposed pericarditis or pneumonia who proved to have diffuse peritonitis from appendicitis. Fellenberg's case, in which the disturbances from a wandering kidney were kept under control by assuming the knee-chest position during the attacks, was recently mentioned in these columns, page 1135. Occlusion of the intestine from kinking or distention changes, with traction on the root of the mesentery, the so-called arteriomesenteric duodenal occlusion, has been repeatedly effectually combated by having the patient assume the ventral decubitus or the knee-chest position, and Tarnier used to take advantage of the mechanical conditions in the "Mohammedan prayer attitude" as a systematic means of treating certain displacements of the uterus.

Beiträge zur klinischen Chirurgie, Tübingen

April, LXXII, No. 3, pp. 581-818

50 Transduodenal Drainage of Hepatic Duct with Plastic Operation on This and the Common Bile Duct. F. Voelcker.

51 *Indications for Operative Treatment After Contusion of the Kidney. (Indikationsstellung zu operativem Eingreifen bei subkutanen Nierenverletzungen.) F. Voelcker.

52 Myotomy of Gluteus Maximus for Snapping Hip Joint. (Offene Myotomie des Musculus glutaeus maximus bei schnellender Hüfte.) F. Voelcker.

53 *Technic for Extraperitonization of Inflammatory Foci. (Extraperitonisierung entzündlicher Herde.) F. Voelcker.

54 *Sacral Excision of the Rctum. F. Voelcker.

55 *Pararectal Prostatectomy in Ventral Decubitus. (Konservative Enukleation der hypertrophischen Prostata auf pararectalem Wege in Bauchlage.) F. Voelcker.

56 Cystoscopic Views of the Bladder Portion of the Prostate. (Cystoskopische Skizzen des Blasenantelles der Prostata.) F. Voelcker.

57 *Excision of Tuberculous Seminal Vesicles with Temporary Displacement of the Rectum. (Excision tuberkulöser Samenblasen mit temporärer Verlagerung des Rectum.) F. Voelcker.

58 *Successful Arsenic Therapy of Apparently Inoperable Sarcoma of the Spine. (Heilung scheinbar inoperabler Wirbelsarkome durch Arsentherapie.) E. Manheimer.

59 *Injuries of the Kidneys. (Ueber Nierenverletzungen.) E. Keuper.

60 *Plastic Operations on Kidney Pelvis and Ureter. F. Weinberg.

51. **Indications for Operative Treatment with Contusion of the Kidney.**—Voelcker comments on the recent statistics of traumatic lesions of the kidney showing a mortality of 14.6 per cent. in 143 cases with a conservative operation and of 16.7 per cent. in 131 nephrectomies, while 20.6 per cent. of the 427 patients not given operative treatment died. This comparative mortality is the more striking when we reflect that only in the severest cases is operative treatment applied. The main points are to determine whether the vessels and the kidney pelvis are torn and whether there is infection. The nature of the accident does not answer these questions, and the intensity of the hematuria is not always an index of the severity of the injury. None of the symptoms is absolutely reliable, but cystoscopy, supplemented possibly by catheterization of the ureters, throws a flood of light on conditions at

once, and he advises this as the routine procedure when there is any doubt. Even mere cystoscopy will show whether the urine is being regularly expelled in a strong jet from the ureter mouth. If the urine is blood-stained, this shows which kidney is injured and that the pelvis and ureter are not torn, and that the passage from the pelvis to the bladder is open. This knowledge excludes the fear of infiltration of the urine and shows that the functioning of the kidney is not materially impaired. The closer to normal the conditions in the secretion, the greater the liability that the injury is confined to the cortex. Chromocystoscopy, that is, inspection of the stained urine after giving indigo carmin, illuminates conditions still further. Fresh blood is red, and if the blood in the urine is brownish, it shows clotting of the blood in the pelvis or bladder. Catheterization of the ureter answers the question as to the presence of infection. If the bloody urine is expelled in approximately normal amounts and rhythm, conservative treatment is indicated, but if no blood or urine enters the bladder from the injured kidney and none can be obtained through the introduced ureter catheter or there is merely blood or a few clots, there is evidently some laceration of the pelvis permitting escape of the urine into the surrounding tissues, or the kidney has been destroyed to such an extent that the secretion of urine is arrested. In either case operative treatment is imperative. If stagnating urine is found in the pelvis, this excludes laceration; the obstruction to the outflow of the urine is probably pressure from some hematoma nearby, with edematous swelling of the mucosa of the pelvis and ureter. Even with these findings, if the pelvic urine is aseptic, conservative treatment is indicated. In case of infection, operative measures should not be delayed. A case reported shows that stagnation of urine in the pelvis may cause the most intense pains, even without direct injury, and evacuation of the urine relieves at once.

53. **Extraperitonization of Inflammatory Foci in the Abdomen.**—Voelcker strives to wall off the focus after its evacuation by inducing what he calls extraperitonization. He accomplishes this with a series of pieces of gauze spread out flat over the walls of the cavity in such a way as to form a funnel, from the center of which project the stumps of the organ or the tissues whose necrosis is dreaded. The irritation from the gauze causes the throwing up of adhesions, soldering the peritoneal surface together, so as to bury completely the cavity. By this method of tamponing, the field is thus extraperitonized from the rest of the peritoneum, and he relates a number of cases in which this technic proved a safe reliance. The list includes some infected abdominal wounds, gangrenous hernia, abscesses, resection of the cecum, tuberculous fistula into the intestine, and for extraperitoneal drainage of retroperitoneal cellular tissue.

54, 55, 57. **Pararectal Operations.**—Voelcker lauds the advantages of the sacral route for excision of the rectum, having found that, with the patient in the ventral decubitus, unusually favorable conditions for the operation were obtained after drawing the rectum to one side and dividing the gluteus maximus, the levator ani and the pelvic fascia. His experience with excision of the rectum by this technic was so encouraging that he has applied it also in removal of the enlarged prostate, permitting retention of the prostatic portion of the urethra. He calls this conservative enucleation, and describes the technic with which it is possible to do prostatectomy by the sacral route, giving eight case histories in which the outcome was excellent, except in the one case of malignant disease. He also describes two cases in which he removed tuberculous seminal vesicles with this technic, drawing the rectum to one side.

58. **Cure of Spinal Sarcoma Under Arsenic.**—After an incomplete operation on an osteoid spindle-celled sarcoma with myxomatous giant-celled parts, growing from the transverse process of the second lumbar vertebra, the patient was treated with intravenous injections of atoxyl. She was a girl of 16 and during the month after the operation before the atoxyl was begun, she seemed to be going down, but at once began to recuperate under the atoxyl and in a month seemed to be quite restored to health. There have been no signs of recurrence during the five months since. Sick has also observed great improvement under Fowler's solution or atoxyl after an incomplete operation for sarcoma, but one patient has since succumbed to recurrence; the other is still in good health, as is also a patient with sarcoma of the skull. In still another case the sarcomatous nodules of the skull retrogressed under intravenous injection of atoxyl. The elderly patient was in good health for two years but then recurrence was observed, which was refractory to further injections. The sarcomas in these cases all had the same histologic features, the sudden stormy onset, the involvement of muscles and bones, preventing a complete removal, and the remarkably favorable influence of the arsenic after an incomplete operation.

59. **Contusions of the Kidney.**—Keuper discusses the points on which the indications for treatment are based, and reports twenty cases, including fourteen with an isolated injury of the kidney; the others were complicated by fractures or the bursting of a hydronephrosis.

60. **Plastic Operations on the Kidney Pelvis and Ureter.**—Weinberg reviews the present status of these operations, adding forty-nine new cases to Kroiss' 102 from the literature, thus bringing the total to date to 151. This includes five unpublished cases from Voelcker's clinic, which he reports in detail. Among other points brought out is that the general condition is not sufficiently accurate for estimation of the ultimate outcome of these operations; cystoscopic examination years after will sometimes reveal unsuspected conditions when the outcome is supposed to be favorable in every respect.

Berliner klinische Wochenschrift

May 15, XLVIII, No. 20, pp. 877-924

61 *Action of Combinations of Drugs. (Untersuchungen über die Wirkung von Arzneigemischen.) E. Bürgi.
62 Melanosis of Mucosa of Large Intestine. (Melanose der Dickdarmschleimhaut.) L. Pick. Commenced in No. 19.
63 Inoculation of Monkeys with Malignant Syphilis. E. Tomasczewski.
64 *The Wassermann Reaction in the Asylums of Denmark. O. Thomsen, H. Boas, R. Hjort and W. Leschly.
65 Transplantation of Fascia. F. Rehberg.
66 Atropin and Vaccines in Treatment of Gonorrhea. (Neuere Gonorrhoebehandlung.) H. Hecht and E. Klausner.
67 Cultivation of the Leishman-Donovan Bodies. (Kultur und Modalitäten der Entwicklung der Leishman-Donovan'schen Körperchen.) G. Franchini.
68 Centrifuge in Determination of Uric Acid in Urine. (Ueber Harnsäurebestimmungen mittels der Zentrifuge.) A. Stephan.
69 Diagnostic Importance of Acquired Disturbances in Color Perception. (Erworbene Farbensinnstörungen.) H. P. Köllner. Commenced in No. 19.

61. **Combinations of Drugs to Enhance Potency.**—Bürgi has made over 1,500 experiments on rabbits with combinations of different drugs in eleven groups, mostly narcotics, and has discovered several laws regulating the action of the various combinations. Among the laws thus discovered is that a mixture of two drugs, especially of two narcotics, has an action which is merely the sum of the action of its two components when both belong to the same group, as, for instance, to the fatty series, or when both are alkaloids of opium. On the other hand, the potency of the action of both is much enhanced when the two components belong to different groups. He has also found that the action of a drug is enhanced when the dose is halved and given at an interval of from five to fifteen minutes. He is inclined to attribute this enhancing of the potency to the fact that the combined drugs act on more points than one drug alone, and also that even when they act on the same points, they act at different times, thus prolonging the medicinal action on these cells. The latter explanation applies also to the enhancing of the effect by halving the dose; this duplicates the action on the cells before the drug is swept away by the blood. Another point he has discovered is that an extremely minute amount of one drug will, in some cases, materially enhance the potency of another; for instance, scopolamin in the rabbit will not induce central anesthesia, even in large doses. The effect is exclusively peripheral. Given in amounts to kill the animals, they die but without preceding general narcosis. But even a tenth of a mgm., when combined with another narcotic, has the desired effect. This suggests that possibly the constituents in mineral waters which may be present only in minute amounts, may be of decisive importance for the general effect, and they should not be disregarded in the artificial production of mineral waters.

64. Summarized in THE JOURNAL June 3, 1911, p. 1698.

Deutsche medizinische Wochenschrift, Berlin

May 11, XXXVII, No. 19, pp. 865-912

70 Acute Gangrene of the Gall-Bladder With or Without Cholelithiasis. (Akute Gallenblasengangrän, mit und ohne Steinbefund in der Gallenblase.) P. L. Friedrich.
71 Cellular Anaphylaxis. (Enteritis anaphylactica, Conjunctivitis und Rhinitis anaphylactica—Heufieber—und deren sogen. spezifische Heilung.) A. Schittenhelm and W. Weichardt.
72 Instantaneous Roentgen-Ray Pictures. (Ueber den Begriff "Röntgen-Momentaufnahme" und über Prüfung der Röntgenapparate auf ihre Fähigkeit, Momentaufnahmen sich bewegender innerer Organe zu liefern.) E. Stuertz.
73 *Measurement and Importance of Abdominal Pressure. P. Engelen.
74 Hydrogen Dioxid in Hyperacidity. (Zur medikamentösen Therapie der Hyperazidität.) R. Roubitschek.
75 Case of Traumatic Hysteric Pseudo-Aphasia. T. Becker.
76 Intra-Uterine Fetal Breathing Movements. (Intrauterine Atembewegungen des Foetus.) K. Reifferscheid.
77 Evils of Introduction of Foreign Bodies Into the Uterus to Prevent Conception. E. G. Liek.
78 Gunshot Wounds of Long Bones. (Gelenkschüsse und Schussfrakturen der langen Röhrenknochen im sudwestafrikanischen Feldzug 1904-1907.) A. Franz.
79 Gunshot Wounds of the Abdomen Without Injury of Organs. A. Wagner.
80 Bridging Gap in Urethra with Flap of Fascia. (Ueberbrückung eines ausgedehnten Harnröhrendefektes durch freie Fascien-Plastik.) F. Hohmeier.
81 Technic for Intravenous Injection of Salvarsan. P. Sonnenberg.

73. Importance and Measurement of the Intra-Abdominal Pressure.—Engelen expatiates on the importance of the intra-abdominal pressure as a factor in various disturbances, especially those of a cardiac neurosis and with arteriosclerosis, etc. The influence of the intra-abdominal pressure on the circulation in the viscera and throughout the abdomen is obvious, as the functioning of the lungs is so dependent on the correct functioning of the diaphragm and this in turn is dependent on the pressure prevailing in the abdomen. To estimate this correctly, Engelen has devised a simple little appliance based on the principle that a thin elastic membrane serving as a wall between two spaces bulges out into the space in which the pressure is lower. When the pressure is exactly alike on both sides of the membrane wall, the membrane stretches straight, without bulging in or out. He uses a large glass bell with thin rubber tissue tied over the mouth of the bell. The bell is placed on the abdomen to which it adheres airtight; the abdominal wall, and the rubber tissue clinging close to it bulge upward slightly into the glass bell. Air is then pumped into the bell until the rubber membrane and with it the abdominal wall are pushed downward by the pressure until they lie flat. The pressure within the bell required to push down the wall until it is flat is recorded by an index fastened perpendicularly in the center of the rubber tissue; the upper end of the index rides up and down in a graduated glass tube projecting downward from the top of the bell. He comments on the fact that while the disturbances resulting from enteroptosis are familiar, those resulting from abnormally high intra-abdominal pressure have been generally overlooked. Unduly high pressure by impeding the excursions of the diaphragm makes respiration shallower and forces extra work on the heart, especially on the right ventricle, while the excessive pressure also hinders normal circulation in the abdominal organs. When the excessive pressure is due to accumulation of fat, abdominal massage and swimming baths have aided in restoring conditions to normal in Engelen's experience. With abnormally low pressure, as with enteroptosis, the use of abdominal binders, electric stimulation of the abdominal muscles and forced feeding all help. In both conditions, gymnastic exercises, abdominal straining, exercises in deep breathing and inculcation of a correct attitude are of prime importance.

Deutsche Zeitschrift für Chirurgie, Leipsic

April, CIX, Nos. 3-4, pp. 205-424

82 Relations Between Hip-Joint Disease and Coxa Vara. (Zur Frage der Coxitis. Coxa vara und sog. Osteoarthritis deformans juvenilis—richtiger Coxa vara capitalis.) R. Levy.
83 Papilloma of the Thyroid. (Zottenkrebs der Glandula thyreoidea.) M. Plessner.
84 Etiology of Inflammatory Stenosis of the Rectum. (Zur Kenntnis der Aetiologie der entzündlichen Mastdarmstenosen.) A. Exner.
85 *Lymphosarcoma of the Tongue. (Beitrag zur Dauerheilung der Lymphosarkome.) J. Schleinzer.
86 Dermoids of Pelvic Connective Tissue. (Zur Kenntnis der Dermoide des Beckenbindegewebes.) L. Arzt.
87 *Roentgen-Ray Examination After Gastro-Enterostomy. F. Härtel.
88 Meckel's Diverticulum. K. Doepfner.

85. Lymphosarcoma of the Tongue.—Schleinzer reports the case of a woman of 54, previously healthy, who suddenly began to experience pains in the neck and difficulty in swallowing, accompanied by the end of two weeks with *fetor ex ore*, copious expectoration and a smarting and burning in the throat. A lump could be palpated in the neck below the angle of the jaw and an ulcer with wall-like edges soon developed on the right margin of the tongue. On the diagnosis of cancer, the glands in the right side of the neck were excised after ligation of the lingual artery; then the lower jaw was temporarily resected and the growth removed. It extended to the epiglottis and arch of the palate. A suspicious enlarged gland on the left side was also excised a few weeks later. The glands showed signs of metastasis, but the patient has had no evidences of recurrence of the lymphosarcoma during the five years to date. The similar cases of sarcoma of the tongue on record are reviewed and compared with this one which seems to be the second case of a histologically verified lymphosarcoma of the tongue and the only one in which the operation proved permanently successful.

87. Radioscopic Examination Years After Gastro-Enterostomy.—An interval of from four months to nearly three years has elapsed since the gastro-enterostomy in the twenty-two cases reported by Härtel from the university surgical clinic at Berlin in charge of Bier, and he gives the Roentgen-ray pictures taken before the operation and soon after and again after an interval of a year or so. This is only about half the total cases of gastro-enterostomy for non-malignant disease done during this period, but late after-examination was not possible in the others. There has been recurrence of trouble in three cases and three other patients were only improved by the operation, but the sixteen others were cured. The details of the cases are given, the monograph filling eighty pages. Radioscopy shows that the stomach evacuation proceeds after a gastro-enterostomy not merely by the laws of gravity but by a kind of physiologic sphincter process. The cases teach further that when the new opening is made on account of anatomic stenosis, it answers the desired purpose completely from the practical point of view. When the stenosis was merely spastic the gastro-enterostomy overcomes the tendency to contraction and the pylorus becomes permeable once more. On the other hand, an ulcer in the middle part of the stomach is not much influenced by the gastro-enterostomy; most of the food still passes out through the pylorus instead of through the new opening. One or more internal courses of treatment for the ulcer should follow every gastro-enterostomy. He regards a gastro-enterostomy as contra-indicated with negative findings as to ulcer or stenosis.

Medizinische Klinik, Berlin

May 14, VII, No. 20, pp. 761-800

89 Physiologic Action of Carbonated Baths. H. Winterberg.
90 Spontaneous Healing of Appendicitis. E. Ruge.
91 Salvarsan in Pregnant and Parturient Women. (Die Salvarsantherapie bei Schwangeren und Wöchnerinnen.) E. Langes.
92 *Resection of Spinal Roots for Gastric Crises in Tabes. (Förstersche Operation bei tabischen gastrischen Krisen.) J. Becker.
93 Vibratory Massage in Treatment of Bronchial Asthma and Allied Conditions. W. Siegel.
94 *Urine Findings with Cancer. (Ueber einen Harnbefund bei Karzinomatösen.) O. Gross and M. Reh.

92. Resection of Posterior Spinal Roots in Tabes.—Förster's operation was done in Becker's case to relieve intolerable gastric crises in a woman of 54 with advanced tabes, the crises returning so often, accompanied by vomiting, that the woman was unable to retain food and was suffering from progressive inanition. The seventh to the tenth dorsal roots were resected on both sides, and the gastric crises never returned afterward, but both legs and the bladder became paralyzed for a time. These symptoms gradually subsided and by the end of three months the patient was restored to the previous condition, except that the gastric pains had been completely cured. The patient lost with them all sense of fulness of the stomach, so that she is liable to eat too much but vomits up the excess afterward. Some after-hemorrhage, compressing the spinal

cord, may have been responsible for the paraplegia, but more probably, Becker thinks, it was the result of injury of the lumbar cord from the raising of the foot of the bed after the operation. It might have been wiser to have raised the region of the field alone, as after a kidney operation, instead of slanting the whole spine. Or the dural sac might have been tied off above and below the field by the Sick method; or the Guleke technic for extradural interruption of the roots might have been better.

94. **Reaction in the Urine of Cancer Patients.**—Gross and Reh have applied the Salomon and Saxl technic, described in THE JOURNAL May 27, 1911, page 1593, in eighteen cases of cancer and in thirty-three patients with other serious affections. This experience has convinced them that the reaction is not pathognomonic of cancer but is dependent on certain disturbances in the metabolism which may accompany cancer but are also liable in other morbid conditions entailing liver trouble or cachexia. It is possible, however, that the pronounced reaction in cases suspicious of gastric cancer may differentiate gastric carcinoma from other stomach trouble in some cases, especially if the technic is further perfected.

Münchener medizinische Wochenschrift

May 9, LVIII, No. 19, pp. 993-1056

95 *Orthostatic Albuminuria and Tuberculosis. H. Lüdke and J. Sturm.
96 Menstruation. (Ursache und Bedeutung der menstruellen Blutung.) G. Klein.
97 Sensitizing Roentgen Rays by Heat. (Experimentelle Untersuchungen über die Sensibilisierung der Röntgenstrahlen mittels Wärmedurchstrahlung.) F. Bering and H. Meyer.
98 *Test for Presence of Salvarsan in the Body. (Neue Methode, das Salvarsan nachzuweisen.) J. Abelin.
99 Influence of Thyroid Extract on Coagulation of Blood. (Einfluss von Schilddrüsenpresssaft auf die Blutgerinnung.) P. Mathes.
100 Radical Plastic Operation for Femoral Hernia with Pectineus Flap. (Radikaloperation des Schenkelbruchs durch Pektineusplastik.) P. Sick.
101 Connection Between Integument and Suprarenals. (Zusammenhang zwischen Hautorgan und Nebennieren.) E. Melrowsky.
102 Action of Chloromorphid on Man. G. Grund.
103 *Typhoid in Children. (Typhusepidemie in einer Kindererziehungsanstalt.) G. Brückner.
104 Pneumonic Plague in Northern China. (Die Lungenpest in Nordchina.) Schreyer.
105 Pyemia After Acute Staphylomycotic Spermatocystitis. G. B. Gruber.
106 Floating Cartilages in the Knee-Joint. (Auf den Recessus subfemoralis beschränkte Gelenkkörperbildung.) E. Ruge.
107 Gall-Stone Disease. (Allgemeine Grundsätze für die Diagnostik, Indikationsstellung und Therapie des Gallensteinleidens.) R. Glaser.

95. **Orthostatic Albuminuria and Tuberculosis.**—Lüdke and Sturm have examined the urine of 140 tuberculous individuals, including sixty in the first stage, fifty in the second and thirty in the third, all afebrile and up and about, and all over 20 years old. In 103 of the 140 a positive reaction for albumin was obtained after the individuals had been on their feet for an hour, the proportion being about the same in each of the three groups. No trace of albuminuria could be detected in the eight healthy controls examined. In a further series of tests the tuberculous individuals giving a negative albumin reaction were injected with a minute dose of tuberculin, not large enough to induce fever, and then albumin was evident in the urine when they had been on their feet for an hour. They also found tubercle bacilli in the urine in the positive cases of tuberculous orthostatic albuminuria. All these facts indicate that the orthostatic albuminuria in these cases is the result of the action of the tuberculous toxins on the kidneys. They suggest further that auto-intoxication may in some cases be responsible for orthostatic albuminuria. The most important practical conclusion, however, from the research reported is that orthostatic albuminuria may reveal incipient tuberculosis in some cases when other causes for the albuminuria can be excluded. The pulse-pressure was lower during the period of orthostatic albuminuria in their experiences.

98. **Test for Salvarsan in the Body Fluids.**—Abelin has applied the Ehrlich diazo reagent to salvarsan and obtained a characteristic color reaction. The urine of patients after treatment with salvarsan may thus give a deceptive diazo reaction. A reaction characteristic of the presence of salvarsan can also be obtained in other organic fluids by adding three or four drops of dilute hydrochloric acid, cooling, and then adding three or four drops of a 0.5 per cent. solution of sodium nitrite, which results in production of a diazo body with lively greenish-yellow fluorescence. This diazo solution of the salvarsan fluid is then added, a drop at a time, to an alkaline 10 per cent. solution of resorcin or other phenol. There follows a red color reaction. The solution must always be alkaline, as free acid checks the color reaction. The reaction is apparent in two hours after an intravenous injection of salvarsan. Using 7 or 8 c.c. of urine with 5 or 6 drops of dilute hydrochloric acid, adding 3 or 4 drops of the 0.5 per cent. sodium nitrite solution and dropping the mixture into 5 or 6 c.c. of the alkaline colorless resorcin solution, it at once turns red.

103. **Typhoid Epidemic in Children's Asylum.**—Brückner's experience with an epidemic of typhoid affecting three-fourths of the 102 boys in the institution confirms the importance of unsuspected typhoid in children as a factor in the dissemination of the disease. It also demonstrates the great value for prophylaxis of systematic taking of the temperature of all in the environment of a case of typhoid and isolating those with the slightest tendency to fever.

Virchow's Archiv, Berlin

May, CCIV, No. 2, pp. 161-320

108 The Plasma Cells in Disease of the Ears, Nose and Larynx. G. Alagna. Commenced in No. 1.
109 Endocarditis Due to Influenza Bacillus. G. Porrini.
110 Pathologic and Anatomic Study of Diabetes Mellitus. K. A. Heiberg.
111 Histologic Study of the Musculature of the Heart. S. Wideröe.
112 Stain for Fibrin. (Ueber Färbung mit Bestschem Karmin, speziell zum Nachweis von Fibrin.) E. Fraenkel.
113 Some Cases of Carcinoma of the Body of the Uterus with Much Glycogen. H. E. De Bonneville.
114 Intermuscular Ossification. K. Kawashima.
115 Histology of Hypertrophy of the Prostate. M. Lissauer.
116 Epithelium and Tumors of the Cerebral Ventricles. (Ueber das Epithel und die Geschwülste der Hirnkammern.) P. Vonwiller.
117 Case of a Leukemic Malignant Lymphoma with Special Changes in the Liver. T. Tsunoda.
118 Experimental Study of Myeloid Metaplasia. A. Werzberg.

Wiener klinische Wochenschrift, Vienna

May 11, XXIV, No. 19, pp. 655-694

119 *Chorio-Epithelioma. F. Hitschmann and R. Cristofoletti.
120 *Paravertebral Liver Dulness. (Ueber vertebrale und linksseitige paravertebrale Leberdämpfung.) P. Grocco.
121 Coincidence of Herpes Zoster and Psoriasis. G. Gjorgjevic.
122 Injury of Skin by Light and Protection Against It. (Lichtschädigungen der Haut und Lichtschutzmittel.) L. Freund.
123 Technic for Puncture and Intravenous Infusion. R. Bauer.

119. **Chorio - Epithelioma.**—Hitschmann and Cristofoletti review the literature on the subject—all the evidence showing that it is impossible to distinguish between normal trophoblast tissue and malignant chorio-epithelioma, and also that it is impossible to determine by the structure which of the chorio-epitheliomas is going to run a malignant course and which will subside harmlessly. They expatiate on the peculiar conditions with chorio-epithelioma tissue burrowing into the uterine vessels and thus offering the most favorable conditions for embolism when subjected to any mechanical strain. This mechanical strain is supplied by any operation on the uterus, even curetting, and they believe that the operation for removal of chorio-epithelioma is in many cases the direct cause of the malignant metastasis which follows. They tabulate from the literature eighteen cases and report a similar one from their own experience in which on suspicion of chorio-epithelioma the uterus was removed, and at once malignant metastases developed, which proved fatal in less than three weeks. The operation evidently forced the proliferating tissue deeper into the vessels and the emboli were then scattered all through the body, with immediate metastases in nearly all the internal organs, while there had been no signs of metastasis before the operation. In another case in their experience this rapid metastasis followed simple diagnostic curetting. They also tabulate thirty cases in which the patients died during or soon after the operation and necropsy showed the internal organs free from metastases in nearly every instance. In forty-six other cases in which the patients died without any operation having been attempted, the internal organs were free from metastasis in nearly every case except in the lungs and sometimes in the vagina. Three hundred

cases from the literature are reviewed and the practical conclusion drawn that the operation for chorio-epithelioma must be by the abdominal route and with as little manipulation of the uterus as possible and only after ligation of the veins and hypogastric artery. If curetting is deemed necessary, its dangers should be borne fully in mind.

120. **Left Paravertebral Percussion of the Liver.**—Grocco calls attention to the valuable information obtainable by systematic percussion of the region of the last thoracic vertebræ and of the zone to the left in regard to the size and condition of the liver. The facts in regard to the liver dulness from the rear differ, he declares, from the descriptions in the textbooks, and the latter need revision. He says that the vertebral and paravertebral area of dulness of the liver changes its position in case the liver is abnormally high or low or enlarged. The best technic to determine this is by percussing along a perpendicular line a little to the right of the spine, then along the spine, and then along four other parallel lines to the left of the spine until one line coincides with the left margin of the liver, marking the points where the liver dulness commences. The outer limit of the left portion of the liver dulness is determined by percussing horizontally, from the axillary line inward to the mark corresponding to the left margin of the liver. The distance between this outer limit of dulness and the spine, along a horizontal line, if more than 4.5 or 5 cm., indicates enlargement of the left lobe of the liver. In one case recently, percussion by this technic showed that the left upper margin of the area of liver dulness was irregular and displaced, thus permitting the diagnosis of a circumscribed abscess in the liver which gave no other topographic hints of its presence. This percussion technic also shows the point where an exploratory puncture of the thorax can be made without danger of piercing liver tissue. Grocco thinks that this percussion technic should be adopted as an instructive and reliable routine diagnostic procedure.

Zeitschrift für klinische Medizin, Berlin

LXXII, Nos. 5-6, pp. 377-576. Last indexed May 6, p. 1371

124 Etiology of Paroxysmal Hemoglobinuria. L. Fejes.
125 *Diagnosis of Liver Disease. (Leberkrankheiten.) W. Frey.
126 Influencing of Lipoid Hemolysis by Albuminoids. (Die Beeinflussung der Lipoidhämolyse durch die Eiweissstoffe.) J. Kentzler.
127 Antitryptic Properties of Diabetic Blood. (Studien über das antitryptische Vermögen diabetischen Blutes.) E. Neisser and H. Koenigsfeld.
128 Cancer of the Pancreas. (Zur Klinik des Pankreaskarzinoms.) K. A. Heiberg.
129 Experimental Research on Kidney Fatigue. (Ueber Nierenermüdung.) L. d'Amato and V. Faggella.
130 *Experimental Coma. R. Ehrmann, P. Esser and A. Loewy.
131 *Serodiagnosis of Pregnancy. (Serumdiagnose der Schwangerschaft.) E. Rosenthal.
132 Non-Perforated Duodenal Ulcer. (Diagnose und Behandlung des Nichtperforierten Duodenalgeschwürs.) S. Kemp.
133 Unreliability of Serodiagnosis in Tuberculosis. (Die klinische Verwertung der serologischen Untersuchungsmethoden bei der Tuberkulose.) H. Lüdke and F. Fischer.
134 Determination of Total Stomach Content. Ueber die Bestimmung des (Gesamtmageninhaltes.) A. Galambos.
135 *Standards for Estimating Size of Heart. (Einfache Massstäbe für die normale Herzgrösse im Röntgenbilde.) M. Levy-Dorn and S. Möller.

125. **Diagnosis of Disease of the Liver.**—Frey devotes fifty pages to discussion of this subject, tracing the fate of the carbohydrates in the body, the nitrogenous bodies, especially urea, ammonia and amino-acids, in connection with disease of the liver, or in pathologic conditions with the liver apparently intact. The metabolic findings in twenty-five patients with liver disease and eleven with healthy livers are tabulated. The general conclusions are to the effect that urobilinuria is frequent with liver affections but that it does not point to functional injury of the liver unless it is possible to exclude an abnormally low proportion of urobilin in the stools and an increased influx of urobilin-producing substances from destruction of blood. Alimentary levulosuria occurs in 10 per cent. of persons with sound livers and in 50 per cent. of those with diseased livers. It is especially frequent with cirrhosis of the liver, but does not constantly accompany it. The proportion of urea in the urine throws no light on conditions in the liver. The ammonia output is high with liver disease and very high in every case of cirrhosis, without exception, and when much meat has been eaten, or there is fever or disease of any kind tending to acidosis. The behavior of the amino-acids is an important aid in determining the functional capacity of the liver. With cirrhosis they are regularly increased (over 0.5 gm. N). The importance of this finding is enhanced by the fact that this anomaly was encountered, besides in cirrhosis, only in a case of amyloid liver and one of pronounced stasis in pneumonia, in typhoid, and in pancreas-diabetes in the dog. The patients with other liver disease seem to be able to take care of the ingested amino-acids as perfectly as the healthy.

130. **Experimental Coma.**—Ehrmann and Esser found that it is possible to induce coma similar in every respect to diabetic coma by feeding dogs with butyric acid or injecting it into a vein. Ehrmann discusses in particular the relations in this respect between sodium butyrate and the isobutyrate, and Loewy and Ehrmann the alkalinity and carbon dioxid content of the blood.

131. **Serodiagnosis of Pregnancy.**—Rosenthal presents evidence to prove that the antitrypsin reaction is merely the index for increased transformations of albumin. He examined the serum of fifty pregnant women to study this index and declares that the antiproteolytic action of the serum from otherwise normal women will reveal the presence or absence of pregnancy. He was unable to find a single case in which the antitryptic index was not abnormally high with existing pregnancy and a living fetus. This occurs almost with the onset of pregnancy, so that it is possible by this means to affirm the existence of pregnancy if the woman is healthy. The antitrypsin reaction is always positive with carcinoma, exophthalmic goiter, nephritis, also with fever, with certain gynecologic affections, for two or three weeks after childbirth and for a week after abortion; but if all these can be excluded then the positive reaction speaks for a pregnancy.

135. **Determination of the Size of the Heart.**—Levy-Dorn and Möller give the findings in 225 persons examined with a view to learn some simple physical standards for approximate estimation of the size of the heart in the individual. They found that the heart measures one and a half times the width of the fist across the joints. It also equals the width of the hand plus the length of the first phalanx of the middle finger. These measurements were always found a trifle less than 1 cm. larger than the heart. Fifty of the persons examined were under 20.

Zentralblatt für Chirurgie, Leipsic

May 13, XXXVIII, No. 19, pp. 661-692

136 Iodin Disinfection for Laparotomies. (Zur Joddesinfektion des Operationsfeldes bei Bauchoperationen.) C. Propping.
137 Cystoscopic Diagnosis of Bladder Syphilis. J. P. Haberern.

Zentralblatt für Gynäkologie, Leipsic

May 13, XXXV, No. 19, pp. 697-736

138 Myoglia Staining in Study of Structure of Myomas. F. Heimann.
139 Operative Treatment of Vesico-Vaginal Fistula. N. Wolkowitsch.
140 Vaginofixation. A. Uthmöller.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 4, XXXII, No. 54, pp. 571-578

141 *Suprarenal Syndromes. T. Silvestri.

May 7, No. 55, pp. 579-594

142 Comparative Tests of Tuberculin Reactions. R. Mostl.

141. **Suprarenal Syndromes.**—Silvestri reports the case of a boy of 5 with convulsions after apparent recovery from diphtheria. Following the convulsions was a condition of extreme weakness, the child being unable to stand, with much dizziness. Ascribing the trouble to insufficiency of the suprarenals, Silvestri gave epinephrin, hoping thus to counteract the influence of the diphtheria antitoxin on the suprarenals. The symptoms presented by the child resembled in many points the syndrome he had evoked in experimental research by abrupt suspension of suprarenal functioning. The results confirmed the accuracy of this view as rapid recovery followed. The analogy was striking between the cerebeliar symptoms in this little patient and those in his laboratory animals after monocapsulectomy. In conclusion he mentions similarly successful organotherapy in a case of uncontrollable vomiting of pregnancy, although in this condition the entire system of ductless glands may be involved.

Policlinico, Rome

May 7, XVIII, No. 19, pp. 585-616

143 *Physiopathology of Atrioventricular Conduction. A. Ceconi.

May, Medical Section, No. 5, pp. 193-240

144 Exploratory Craniotomy for Pathologic Localizations in the Zone of Rolando. G. Finzi.

145 *The Signs of Organic Lesions in Epilepsy. F. Agosti.

143. Normal and Abnormal Atrioventricular Conduction.—Ceconi reviews the present status of knowledge in regard to the bundle of His.

145. Signs of Organic Lesions in Epilepsy.—Agosti reviews the ten different signs of special deficiency or disturbances in the cordination of movements liable to be observed in epilepsy, the special morbid reflexes, of which he cites eleven types, and the eleven types of phenomena showing involuntary associated movements with the voluntary. He then reviews his own experience with thirty epileptics. In ten there were unmistakable signs of a preceding brain affection, but in eighteen no trace of the kind could be discovered. In five others the epilepsy came on with some morbid condition and subsided with it later; there were no evidences of mental trouble in this group, but such were evident in thirteen other cases in which no causal factor could be discovered. He gives the details of six from this last group; in some the epilepsy was of recent onset and yet no signs indicating an organic lesion in the nervous system could be discovered. In one case the epilepsy developed at puberty and the seizures accompanied the menstrual periods. This patient's father had been a hard drinker and had died at 50 of heart disease.

Riforma Medica, Naples

May 8, XXVII, No. 19, pp. 585-632

146 *Ascites and Collateral Circulation. (Del circolo venoso suppletivo nei suoi rapporti colla comparsa dell'ascite, durante il decorso della cirrosi epatica.) S. Livierato.

147 Epinephrin Lesions of Blood-Vessels and Other Organs. (Studio delle lesioni adrenaliniche dei vasi sanguigni e di altri organi.) G. Vincenzo.

146. Collateral Circulation in the Cure of Ascites.—Livierato gives the history of a case of cirrhosis of the liver under observation for fifteen years with necropsy after intercurrent pneumonia. The patient was a man of 43 with much ascites and enlarged spleen but the liver was of normal size. Under restriction to milk, urea and potassium iodid the ascites was spontaneously reabsorbed and he had no further disturbances for nearly nine years, when the dropsy reappeared but subsided again under the same treatment. Necropsy disclosed an extensive deep collateral circulation, the mesenteric veins and others being much enlarged and amply draining away the effusions. The case teaches that ascites is not inevitable with interstitial hepatitis but that it may develop under the influence of an intercurrent pneumonia or other infection, from weakness of the heart, and disappear again as the heart regains tone.

Ugeskrift for Læger, Copenhagen

May 4, LXXIII, No. 18, pp. 631-662

148 *Obesity as Sign of Disease in Hypophysis Cerebri. A. Friedenreich.

148. Obesity as a Symptom of Hypophysis Disease.—Friedenreich reports two cases of extreme obesity and discusses the share of the hypophysis in it. The first patient was a woman of 42 who had complained for a year of pain in the head and back of the neck with other symptoms suggesting a tumor near the base of the brain, although there were no signs of restriction of the field of vision. The Roentgen-ray findings also suggested a tumor but necropsy showed that the atrophy of the sella turcica was the result of metastasis in the dura from a tumor in the frontal lobe. The hypophysis itself was not enlarged. The second patient was a young man, an imbecile from birth, very short and extremely obese. There were no indications of myxedema but there were other signs of infantilism and femininism, with hypoplasia of the genitals—all suggesting some disturbance in the functioning of the ductless glands. In eunuchs there is generally increased growth in height, and in only twelve of the thirty-two cases of hypophysis disease with obesity with necropsy findings on record is there any mention of atrophy of the genitals. His patient is in good physical health otherwise, and no changes in the sella turcica are apparent by radioscopy. The data cited, however, confirm the assumption that universal obesity may sometimes point to disease of the hypophysis. Radioscopy may prove misleading as the affection responsible for destruction of the sella turcica may be merely a consequence or complication of disease elsewhere.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

MERCK'S MANUAL OF THE MATERIA MEDICA. A Ready-Reference Pocket Book for the Physician and Surgeon. Containing Names of the Chemicals and Drugs Usual in Modern Medical Practice . . . Therapeutic Uses, Modes of Administration and Application, Regular and Maximum Dosage, Incompatibles, Antibodies, Precautionary Requirements, etc.; A Table of Therapeutic Indications, . . . and Miscellany, Comprising Poisoning and Its Treatment; a Comprehensive Dose Table of Chemicals, Drugs and Galenicals; Urinalysis and Examination of Urinary Deposits; Approximate Metric Equivalents and Various Useful Tables, etc. Fourth Edition. Cloth. Sent on receipt of 10 cents, in stamps, to physicians or medical students in United States. Pp. 493. New York: Merck & Co., 1911.

THE EYE, EAR, NOSE AND THROAT. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D. Volume III. The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and C. L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.50. Pp. 365, with illustrations. Chicago: The Year-Book Publishers.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery. By Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Volume VIII. Cloth. Price, $7. Pp. 1146, with 406 illustrations. New York: William Wood & Co., 1911.

STRUCTURE AND FUNCTIONS OF THE BODY. A Handbook of Anatomy and Physiology for Nurses and Others Desiring a Practical Knowledge of the Subject. By Annette Fiske, A.M., Graduate of the Waltham Training School for Nurses. Cloth. Price, $1.25 net. Pp. 221, with 83 illustrations. Philadelphia: W. B. Saunders Co., 1911.

AN INQUIRY AS TO AMEBIC DYSENTERY. An Inquiry as to Disturbing the Public Mind. Dysentery Statistics of the Philippine Islands. Filipino Emigration to the Territory of Hawaii. Some Philippine Diseases. The Most Congested Agricultural Population Known, Five Visayan Islands, P. I. By L. E. Pinkham, Manila. Paper. Pp. 46.

EIGHTEENTH AND NINETEENTH ANNUAL REPORTS OF THE BOARD OF MANAGERS AND SUPERINTENDENT OF THE SOUTHWESTERN INSANE ASYLUM, SAN ANTONIO, TEXAS. For Fiscal Years Ending Aug. 31, 1909, and Aug. 31, 1910. Paper. Pp. 118. Dr. J. R. Nichols, Superintendent, 413-414 Scarbrough Building, Austin, Texas.

THE UNCAUSED BEING AND THE CRITERION OF TRUTH. To Which is Appended an Examination of the Views of Sir Oliver Lodge Concerning the Ether of Space. By E. Z. Derr, M.D., Author of "Evolution versus Involution." Cloth. Price, $1 net. Pp. 110. Boston: Sherman, French & Co., 1911.

MEDICAL REVOLUTION. A Plea for National Preservation of Health Based on the Natural Interpretation of Disease. By Sydney W. Macilwaine, M.R.C.S., L.R.C.P. (Retired). Cloth. Price, 2 shillings 6 pence. Pp. 162. London: P. S. King & Son, Orchard House, Westminster, 1911.

SPIROCHETES. A Review of Recent Work with Some Original Observations. By W. Cecil Bosanquet, M.A., M.D., Fellow of the Royal College of Physicians, London. Paper. Price, $2.50 net. Pp. 152, with 90 illustrations. Philadelphia: W. B. Saunders Co., 1911.

EIGHTY-FOURTH ANNUAL REPORT OF THE DIRECTORS OF THE GENERAL HOSPITAL SOCIETY OF CONNECTICUT. For the Year 1910. Presented at the Annual Meeting, Jan. 26, 1911. Paper. Pp. 48. New Haven: The Tuttle, Morehouse & Taylor Co., 1911.

THE EVOLUTION OF URINE ANALYSIS. An Historical Sketch of the Clinical Examination of Urine. Lecture Memoranda, American Medical Association, Los Angeles, 1911. Leather. Pp. 248, with illustrations. New York: Burroughs Wellcome & Co.

THE PRINCIPLES AND PRACTICE OF BANDAGING. By Gwilym G. Davis, M.D., Universities of Pennsylvania and Göttingen. Third Edition. Cloth. Price, $1 net. Pp. 128, with 164 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

MEMORIAL PAMPHLET. Published by Dr. Shiugo Hashimoto, San Francisco, in honor of his Ancestor Koshoken, an Explorer, Surgeon and Physician of Japan During the Period of Seclusion. Paper. In Japanese. Illustrated.

THIRTY-THIRD ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH, AUGUSTA, GA., 1911. For the Fiscal Year Ending Nov. 30, 1910. Paper. Pp. 80. S. C. Wilson, Secretary, Augusta, Ga.

PROCEEDINGS OF THE CANAL ZONE MEDICAL ASSOCIATION. For the Half-Year, 1910. April, 1910, to September, 1910. Paper. Pp. 150, with illustrations. Dr. John W. Ross, Secretary.

EDUCATION AND PREVENTIVE MEDICINE. By N. E. Ditman, Ph.D., M.D. Paper. Price, 25 cents. Pp. 73. New York: Lemcke & Buechner, 1911.

ACCESSORY AFTER THE FACT. By William A. Hobday. Cloth. Price, $1. Pp. 153, with illustrations. Boston: C. M. Clark Publishing Co., (1911).

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